DEATH THREAT AND ATTITUDES TOWARD DEATH EDUCATION: A TEST OF THE ELABORATION LIKELIHOOD MODEL OF PERSUASION

By

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To my parents, Rino and Elaine Giancoli

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While numerous studies have investigated the effect of death education on one's anxiety about death, little research has examined the relationship of death fear to attitudes toward death education, and the willingness and/or ability to cognitively process death-related information.

Incorporating a conception of death threat based on the Theory of Personal Constructs, the present study used an experimental paradigm developed by Petty and Cacioppo to investigate the extent of cognitive processing of messages arguing in favor of death education.

It was predicted that, compared to subjects low in death threat, subjects high in death threat would be attitudinally biased against death education and would exhibit more negative thoughts in response to a message favoring taking a course in death and dying. Additional hypotheses addressed the relationship between death threat, number of cognitions elicited, and repression-sensitization.

The experiment manipulated message argument quality (strong/weak), distraction (present/none) and level of death threat (high/low) in a between-subjects fully-crossed factorial design. Results indicated that attitudes toward death education were generally positive, and that these attitudes were not related to level of death threat. Females were found to be significantly more favorable toward death education than males. Experimental findings revealed no main effects for death threat but several three-way interactions, suggesting that an individual's death threat may contribute to biased processing of death-related messages under certain conditions. No significant interrelationships were found between death threat, repression-sensitization, and the number of cognitions produced. Implications of the results and limitations of the study are discussed.

CHAPTER I

INTRODUCTION

The past 15 years have seen the proliferation of articles, journals, workshops and classes specifically devoted to topics related to death and dying. Neimeyer (1987) has noted the publication of over 200 empirical research articles since 1979 on death anxiety in such journals as Death Studies, Omega, Journal of Thanatology and others. Workshops and classes have also become increasingly available, with thousands of classes in death education across the United States at the high school, college, and graduate level (Berg & Daugherty, 1974).

Death education has been defined as "a developmental process that transmits to people and society valid death-related knowledge and implications related to that knowledge" (Leviton, 1977, p. 44). Various authors have sought to clarify and elaborate the goals of death education. Leviton (1977) described 13 goals, among them: removing the taboo aspect of death language, promoting comfortable interaction with the suicidal as well as the dying person, promoting a better understanding of grief, and assisting the individual in developing a personal eschatology. Kastenbaum (1981) argues that death education should work toward improved care of the dying and their families, while Shulz (1978) suggests that death education can help to increase the predictability and controllablity of the last phase of life, as well as help individuals understand and express emotions about death and dying. All of these goals of death and dying, Leviton argues, are related to "improving the quality of living and dying (1977, p. 45)."

Numerous studies have investigated the effect of death education on one's anxiety about death. A recent review by Neimeyer (1987) noted the mixed results of these intervention studies, with the conclusion that the interventions most commonly used in death education may have no predictable impact on death attitudes whatsoever. F. R. Epting (personal communication, February 3,1987) has observed that research has almost totally neglected to examine the effects of teaching and course content variables on death education effectiveness. Bugen (1980) has argued that results in death attitude-change research have been inconclusive for at least three reasons: (1) the large variety of unreliable and invalid instruments used to assess the effects of death education, (2) the tendency of the instruments to measure trait rather than state aspects of personality (thus being insensitive to subtle attitudinal changes), and (3) the inherent difficulty of measuring expected outcomes--such as how former students respond when they actually are confronted with death.

Relatively few studies have examined the impact of individual personality characteristics on death-related variables. This may contribute to the lack of consistent findings in death education intervention research. One particular intrapersonal variable that has not been investigated in relation to death education is the willingness or ability of the person to process information about death.

It is almost universally accepted that confrontation with death is a more or less anxiety-provoking and threatening experience. As such, it is something that tends to be avoided, often by defenses such as repression and denial. Research has shown that "repressors" consistently have a higher threshold for threatening material, as indicated by their increased reaction time to responding to threatening stimuli (Eriksen & Lazarus, 1952). If repression can influence information processing in an experimental setting it seems likely that repression can influence the processing of information given in a death and dying class.

Perhaps one factor contributing to the equivocal findings of the death education research is a person's ability and willingness to process information as related to his or her tendency to repress. It seems probable that the more one is likely to process and elaborate information, the more one is likely to change one's attitude about a particular topic. Without processing and elaborating this information, attitudes would be unlikely to change. The present study tests hypotheses addressing the relationship among death threat, repression, and the willingness and ability to process death information embedded in a context of persuasive messages.

Fortunately, a general theory is available to provide a basis for conceptualizing death threat and repression, a research model is available to examine information processing and persuasion, and valid and reliable psychometric procedures are available to operationalize and measure repression and death threat. The following sections will describe these aspects in order to clarify the underlying conceptualization and intent of the present study.

CHAPTER II

REVIEW OF THE LITERATURE

Of the several humanistic theories of psychology and psychotherapy that grew out of the 1950s and 60s--one, the theory of personal constructs, has guided a great deal of research in the study of attitudes toward death. A general introduction to this theory will be provided, followed by a discussion of the theory as it relates to attitudes toward death, repression, and elaboration.

The Theory of Personal Constructs

Developed by George Kelly, and first described in his book The Psychology of Personal Constructs (1955), personal construct theory (PCT) holds that people organize and give meaning to their experiences by construing them along bipolar dimensions of similarity and contrast, called constructs, such as good versus bad, tangible versus intangible or like Mrs. Smith versus not like Mrs. Smith. Each person construes his or her environment, choosing personal and often unique constructs to give experiences meaning. To the extent that people construe events similarly, and share similar constructions, people can communicate and understand each other.

Each person, Kelly argued in his theory, uses a finite number of bipolar constructs in interpreting the world, forming a system of constructs in hierarchical relationship to each other based on the elements or the things they describe. For example, the construct _man_ versus _woman_ can have as elements Mary, Jill, and Alice on one side, or _pole_, and Jim, Michael and Harold on the other. This construct refers to the characteristic of sexes, and describes the differences and similarities of these individuals according to their placement on the poles. The hierarchical nature of constructs is revealed by the assumption that one construct can subsume another as one of its elements. The construct _human_ versus _not human_ would subsume the construct _man_ versus _woman_ as an element under the pole _human_ because all men and women are human. Because the construct _man_ versus _woman_ can be subsumed it is subordinate to the construct _human_ versus _not human_ and may be called a _subordinate construct_ in relation to it. Conversely, the construct _human_ versus _not human_ is called a _superordinate construct_ in relation to _man_ versus _woman_ because of its ability to subsume it.

Two additional points should be noted here. First, according to PCT, each construct has a certain _range of convenience_ meaning that there are elements which it can easily subsume, and elements it cannot. For example, the construct _male_ versus _female_ can subsume the elements _man_, _ram_, _steer_, _boy_, _stag_, _woman_, _ewe_, and _mare_. But it cannot subsume the elements table, bowl, and phonograph because these items lie outside its range of convenience--it would make no sense to characterize them as male or female. A construct is called permeable, however, if it is open to accepting new elements.

Second, the fundamental dynamic of PCT needs to be mentioned. One of the primary motivational factors behind a person's actions according to Kelly is the desire to predict and anticipate events. When making decisions or predictions, a person will choose the alternative in a bipolar construct (i.e., a certain pole) through which he or she anticipates the greater possibility for extension and definition of the construct system. Thus, a person seeks to improve anticipation by the elaboration or revision of the construct system. A person chooses from among those alternatives the one which seems to provide the best basis for anticipating ensuing events (Choice Corrolary, Kelly, 1955, p. 64).

Kelly also defined several other types of constructs, among them comprehensive constructs, incidental constructs, core constructs and peripheral constructs. These terms describe the different functional and content properties of constructs within a person's construct system. The following section will describe these and other terms within PCT to provide a basis for the present conceptualization of death threat. Kelly used the term "diagnostic constructs" to refer to them, and this usage will be retained here.

Diagnostic Constructs

The first diagnostic construct to be described, a comprehensive construct, is a construct which subsumes a relatively wide variety of events or elements. They are not necessarily superordinate constructs, yet they subsume a wide variety of elements from many other constructs. They also tend to be permeable to accepting new elements.

In contrast to comprehensive constructs are incidental constructs, which only subsume a small variety of elements. Only a small number of elements is subsumed, perhaps because the construct is impermeable to new elements, or because it was created to give meaning to only a few "special" events. Kelly mentions a mathematical construct (i.e. nonparametric statistics versus parametric statistics) as an example (1955, p.479).

Core constructs, according to Kelly, "are those which govern a person's maintenance processes, that is, those by which he[she] maintains his[her] identity and existence (p. 482)." Such constructs are perhaps the most superordinate of all a person's constructs, subsuming many other constructs as descriptors of the self. Similarly, core constructs are comprehensive, but generally not very permeable. High permeability would entail much exchange of elements within the core constructs. If this would take place, the person would be constantly and radically modifying his or her self image. This is generally not the case, and thus it appears that core constructs tend to be impermeable.

In contrast to the comprehensive changes that are entailed in the modification of core constructs, _peripheral constructs_ are those that can be changed without serious modification to the core constructs. The modification of a peripheral construct is much less difficult than modifying a core construct, and, according to Kelly, can be accomplished without precipitating serious anxiety (1955, p. 483).

Familiarity with the above diagnostic terms will enable a better understanding of the PCT conceptualizations of fear, anxiety and threat--three emotional reactions that have been widely discussed in the literature on attitudes towards death. These three emotions will be discussed, and the concept of death threat will be introduced.

PCT Formulation of Fear, Anxiety, and Threat

Fear, according to Kelly, is the awareness of imminent change in some of the incidental constructs of one's core role structure. The restructuring of one's identity that seems imminent when experiencing fear is an incidental restructuring and does not entail a comprehensive change in _all_ aspects of one's identity. The experience of fear occurs when only a narrow variety of elements or constructs of one's core identity seem about to change.

Anxiety, on the other hand, is formulated as having a distinctly different source. Anxiety, according to PCT is "the recognition that the events with which one is confronted lie outside the range of convenience of one's construct system" (Kelly, 1955, p.495). In other words, anxiety results from the awareness that one's construct system does not apply to the events at hand. When this occurs, the person is unable to construe certain impending events meaningfully, and this, according to Kelly, gives the feeling of anxiety its ambiguous quality.

The formulation of threat that PCT proposes is similar to the definition of fear, except that threat is an "awareness of imminent comprehensive change in one's core structures" (Kelly, 1955, p. 489, italics added). The comprehensive change represents a multifaceted change to alternate, new, and different core constructs defining one's entire identity. One example of a person experiencing threat is the new client about to begin psychotherapy. Through psychotherapy the client anticipates radical changes in his or her self-concept and identity, and this is perceived as threatening.

Why should comprehensively changing one's core structures be regarded as threatening? Charles Stefan, in his discussion of core constructs, notes that individuals are conditioned by their culture to think of themselves as basically constant. "It is convenient, if not desirable," Stefan writes, "to view one's self essentially as a basic core identity, which can be elaborated, rather than holding a view that one is continually in the process of structuring a new and updated set of core constructs" (1977, p. 294). Changing one's core constructs is costly, for it means changing one's self-identity through experimenting with new constructs, constructs that may initially appear meaningless and thus give rise to anxiety. To avoid this anxiety, many people maintain the myth of permanence and constancy of their self-identity. Anything that is viewed as portending imminent comprehensive change of this identity is threatening.

Kelly observed that death can be one of the most common and powerful sources of threat:

> In order for . . . threat to be significant, the prospective change [that is anticipated] must be substantial. Death is an example. Death is threatening to most people. We describe it as threatening to them because they perceive it as both likely to happen to them and as likely to bring about drastic changes in their core constructs. (1955, p. 489-490)

In the article Confusion and the Clock, Kelly writes about the thoughts that came to him when he experienced a heart attack in 1958. It serves to illustrate the confusion, anguish, anxiety and threat of core identity change one may face when confronting death.

> So, I lay there, that one day that was different from the thousands I had known before, that Friday morning, and I felt twinges of anguish. The anguish was a mixture of things: the ambiguity of my being--future, past, and present--the disarray in the orderliness of my mind and body I had come to rely upon, and the unspeakable loneliness of guilt which threatened to cut me off from those closest to me. In fact, I suspect if I had been a very practical or exacting idealist I would have felt that truth had played me false, and from that point on, the whole thing would have gotten badly out of hand. (1977, p. 224)

In the above passage one can clearly see that, at facing death, Kelly experienced anxiety and threat through the anticipation of a needed comprehensive change in his core constructs. His usual constructs for construing the normal day were no longer meaningful when trying to anticipate this day apart from all the rest. His past, present, and future selves, and even the functioning of his mind and body were no longer anticipated with the certainty of before. He sensed the impending need to reconstrue himself, and radically change his core constructions, in order to understand his new emerging self (i.e. as a cardiac patient? A stroke patient? As dead?). He would need to reconstrue himself--perhaps from "I am _healthy_," to the opposite pole of the construct--"I am _not_ _healthy_," or perhaps from "I am _strong_" to "I am _weak_." Death is anxiety-provoking because it symbolizes a radical change in the self which may be difficult to understand with one's present constructs. Death is often threatening, for it represents the need for a radical and comprehensive reconstruction of one's core constructs in order to understand a (presumably) radically altered self. This is what differentiates death anxiety from death threat from the PCT point of view.

It should be noted, however, that Kelly realized that death is not _necessarily_ threatening. "Death is not so threatening when it does not seem so imminent. It is not so threatening to those who see either their souls or the fundamental meaning of their lives as unaffected by it" (1955, p. 409). In such persons the core constructs of their self-identity are not so likely to be affected by the prospect of death.

Many of the terms to describe a person's constructions discussed above have been operationalized in research on personal constructs. One of the strengths of Personal Construct Theory is that it specifies a system of methods for assessing a person's particular construct system that is derived specifically from the tenants of the theory. The primary method, commonly called a Repertory Grid or REP grid, is represented by a system of common approaches to construct analysis rather than by one particular test or scale (Fransella & Bannister, 1977, p. 2). Krieger, Epting and Leitner (1974) first operationalized the concept of death threat, and developed a modification of the REP grid called the Threat Index (TI) in order to measure a person's death threat. The development of the Threat Index and the relevant research in which it has been used will be reviewed in the following sections.

TI Development

Extending the assertions of Kelly, Krieger (1975) argued that death threat occurs when "an individual has explicitly or implicitly organized his world in such a way that it assumes his immortality, or conversely, in such a way that it excludes death as a real personal eventuality"

(p. 43). Krieger, Epting & Leitner (1974) asserted that the person who could construe both himself and death on the same pole of a single construct was able to see death as a personal reality. A person high in death threat, on the other hand, would show reluctance to subsume the present "self" and "death" together as elements under the same poles of a sample of his or her constructs. This became the operational definition of death threat.

In the original TI described by Krieger et al., subjects were given individual, in-depth interviews, where their personal constructs were elicited in response to replying how two death-related situations were alike and different from a third. After a discussion where more superordinate constructs were elicited, each subject was asked which construct poles would describe "himself," his "preferred self," and "his own death." The total number of times he placed "himself" and his own death on opposite poles of the same construct became his threat index. This elicited form of the TI (TIe) took 60-90 minutes to administer (Neimeyer, Epting, & Rigdon, 1984).

Subsequent versions of the TI have used either 30 or 40 provided constructs (TIp40 and TIp30; Krieger, Epting & Hays, 1979), have asked subjects to either circle the appropriate pole, or quantify the meaningfulness of the constructs by using a Likert scale. Depending on the number of elements to be judged (i.e. self, ideal self, own death, death of best friend, and other death-related examples), the

TIp's can take anywhere from 10 to 45 minutes to administer. In all forms the "death threat score" is the number of self death "splits," or occurences when these two elements are placed on opposite poles of the same constructs.

TI-Related Research

Age. While an early study by Rainey and Epting (1977) found no significant relationship between TI scores and age, more recent work by Robinson and Wood (1984) found that older subjects exhibited significantly less death threat when measured by the TI. These findings were also replicated by Neimeyer (1985). While support for this inverse relationship between age and death anxiety using other scales such as the Collet-Lester Fear of Death Scale (CL) and Templer's Death Anxiety Scale (DAS) appears to be mixed, the majority of published research in the area supports the view that death anxiety and death threat tends to decrease with age (Neimeyer, 1987).

Sex. Research using the TI to measure sex differences has more often than not found no significant difference in the death threat scores of males and females (Eggerman & Dustin, 1985; Neimeyer, Dingemans & Epting, 1977; Neimeyer & Dingemans, 1980; Neimeyer & Neimeyer, 1984; Rigdon, 1982). Numerous studies using the DAS, however, support the conclusion that females are more death-anxious than males, and a study using the CL suggests that this may be related to a tendency for females to have a greater fear of dying than males. Neimeyer (1987) has recently hypothesized that this discrepancy in findings between the TI and DAS may be related to the tendency of females to be more "emotionally expressive" than males. He notes that studies using more "feeling-oriented" questionnaires such as the DAS tend to support the finding of sex differences, while more "cognitively-oriented" measures do not.

Religious Belief. Several studies have examined religious beliefs using the TI. An early study by Krieger, Epting and Leitner (1974) found no relationship between death threat scores and belief in an afterlife. A more detailed study by Rigdon (1982) using the TI and CL found that subjects lower in death fear and threat were more likely to report a stronger belief in an afterlife, report more frequent church attendance, and engage in more religious reading. Tobacyk (1984) found that only traditional religious belief negatively correlated with threat; belief in the paranormal (i.e. ESP, witchcraft) was positively correlated with death threat. Research using other measures of concerns about death has found evidence suggesting a curvilinear relationship between intensity of religious belief and death anxiety (Downey, 1984), as well as suggesting that some varieties of religious belief may serve to repress, rather than eradicate one's fear of death (Kunzendorf, 1985).

Actualization. Much of the research investigating the relationship between death threat and self-actualization is founded on the argument of existentialists such as Heidegger (1962) and Sartre (1956), who contend that only by coming to terms with, and accepting the inevitability of one's own death, can one learn to lead a fuller, more intense life. Based on this reasoning, Neimeyer and Chapman (1980) hypothesized that persons whose current identities were discrepant with their ideal selves (i.e. showed a high count of self/ideal self "splits" on the TI) would show greater death anxiety than more actualized persons, as measured by the DAS and CL. This was indeed found. Wood and Robinson (1982) replicated much of these findings, and found that subjects who were more actualized and had fewer death/self splits (i.e. lower death threat) produced even lower levels of death anxiety than "actualized" subjects with high death threat scores. Subsequent research, however, failed to find support for the additive effects of actualization and death threat in predicting anxiety about death (Robinson & Wood, 1984; Neimeyer, 1985). Although as a whole, evidence suggests there is a relationship between actualization and low death concerns, the precise nature of this relationship remains unclear (Neimeyer, 1987).

In addition to examining demographic and personality variables related to death threat, the TI has been used to study the death concerns of specific populations, such as physicians and the aged. It has also been used to study a particular student group of interest, namely students enrolled in death education courses. The next section will review research examining death education students, and the impact of death education courses.

Death Education Research

In their study of students enrolled in death education courses, Rainey and Epting (1977) found that these students were significantly lower in death threat scores both _before_ and _after_ taking the course, than were students in a comparable control group. The lower death threat of students enrolling in death education courses has also been found by Tobacyk and Eckstein (1980), and similarly, Rosenthal (1983) and Nelson (1978) have found that such students produce lower scores on a scale measuring death avoidance.

Yet, while evidence exists indicating that students enrolling in a death and dying course may have less death anxiety to begin with, the evidence showing that death education may reduce death threat and anxiety is mixed. In the study referred to above, even though Rainey and Epting found that both pre- and posttest death threat scores were lower, there was no significant reduction in death threat scores at the end of the class. When they controlled for pretest differences in a replication of this study, however, Tobacyk and Eckstein (1980) found that a semester-long course in thanatology produced a greater decrease in death threat than did unrelated coursework. Using Nelson's 3-factor scale, Rosenthal (1983) found reduced death avoidance, disengagement, and death fear for thanatology students over the course of their class. Yet no comparable changes were found for the death education students or controls on the DAS. Rigdon (1982) tested the efficacy of some common death education exercises to change one's death threat and fear. He found no significant effect for the particular interventions used (writing a farewell letter and your own obituary)--they had no apparent effect on the subjects' death orientation. Research on the impact of death education interventions such as counseling groups (Bohart & Bergland, 1979), hypnosis (Pettigrew & Dawson, 1979), behavior therapy (Testa, 1981) and professional workshops (McClam, 1980) has failed to produce any significant mean change in death anxiety and threat in their experimental subject groups. Some evidence exists that certain types of death education interventions may even result in increased death anxiety. The variability of responses to death education is perhaps best highlighted by a finding of the Rainey and Epting (1977) study: even though the mean pre- and posttest death threat of students did not change upon the completion of a death and dying course, the variance of their death threat scores increased three-fold. In his review of the death education intervention literature, Neimeyer (1987) notes the common finding that, at the present time, "such interventions have no predictable impact on death attitudes at all"(p. 52), and he reminds us of the present limits of our understanding of death anxiety, and of the factors that influence it.

One such factor that has yet to be investigated in the research examining the effects of death education is the willingness or ability to process and elaborate death-related information. In the literature, willingness to elaborate information has been theoretically linked to the concept of repression-sensitization. The following section will examine the concept of repression-sensitization, primarily from a PCT perspective. Relevant research will be reviewed.

Repression

From a personal construct theory perspective, repression is viewed in terms of elements, single constructs, or construct subsystems that are unavailable for use by the person because their implications appear incompatible to the person's construct system as a whole. Kelly (1955) emphasized that although these unused portions of a construct system have "dropped out of memory," they are not seen as covertly operating stimuli within the person's life (1955, p. 1047). A therapist using PCT on a client's repression would focus on the extension and elaboration of new meanings that would enable the "repressed" constructions to be expressed and modified rather than on trying to reveal buried material in the unconscious which gives meaning to the client's behavior (Epting, 1984). George Kelly described two concepts that relate to the phenomenon of repression from a PCT point of view: submergence and suspension.

Submersion

As noted in the introduction to PCT, a construct has two poles, a likeness and a contrast end, which describe how at least two things (elements) are alike and different from a third. When one pole of a construct is markedly less available for use, this pole is called submerged (Kelly, 1955, p. 467).

For example, Kelly cites the case of the client who says "Everyone has always been good to me" (1955, p. 468) and denies he has ever been mistreated, even with repeated questioning. Here the contract pole to "Everyone has always been good to me" is submerged; the client cannot elaborate its opposite. This does not imply that the submerged opposite pole does not exist--it could be "I have not been good to other people" or "People are no longer good to me," for example. Because the submerged pole cannot be elaborated, its truth cannot be tested. The client above could not examine the truth of "I have not been good to other people."

Why would one pole of a construct become submerged to begin with? Kelly found that clients often construe themselves with the submerged pole of a construct. The client may fear that, if the submerged end of a construct is uncovered and elaborated, she will have to reconstrue herself, with possible wider ranging and devastating results. Examining the submerged pole would also imply testing this construct, and if it is invalidated, the client fears that much of his or her world would have to be reconstrued (1955, p. 470-71). Thus, examining a submerged pole may be threatening for a person, because it is believed to entail imminent comprehensive change in the construction system.

Suspension

While repression can be said to occur in PCT when a single construct pole is submerged, repression on a larger scale also occurs when a construct or a construct subsystem is rejected, because it is incompatible with the construct system as a whole. This Kelly termed suspension. When a construct subsystem is incompatible within the larger system, the ideas and events which the subsystem gives meaning to are "forgotten" or repressed. Similar to a construct with a suspended pole, a person with a suspended structure is unable to describe, elaborate, test, or modify the particular construct subsystem.

According to Kelly, a construct or construct subsystem is suspended when its implications are incompatible with the structures of the larger system (1955, p. 474). For example, a person may construe "death" along construct poles such as nothingness-, meaningless-, and painful-. The implications entailed in this construct subsystem describing death would be incompatible with the person's construction of "life" on the poles of existence-, meaningful-, and pleasurable-, to name a few of a large system.

In endeavoring to "unsuspend" a repressed construct system, a therapist's goal is not to try to make the incompatible construct subsystems compatible. Indeed, Kelly posits in his theory that a person "may successively employ a variety of construct subsystems which are inferentially incompatible with each other" (Fragmentation Corollary, 1955, p. 83). The aim of a PCT therapist is, rather, to extend the limited range of superordinate constructs so that they can subsume the incompatible and opposing implications of the construct subsystems. In the example above, the two incompatible construct subsystems describing life and death could perhaps both be subsumed under the construct pole Experiencing-. By enabling the suspended subsystem describing death to be subsumed by the superordinate construct Experiencing versus Not experiencing, the therapist helps the client bring the suspended structure into view of his system as a whole. The client's construction of death is no longer suspended or repressed, but now can be described and elaborated.

Unfortunately, no empirical research has yet examined suspension or repression from a personal construct theory perspective. Therefore, the following section will examine research investigating repression from a broader theoretical basis.

Repression Research

In the traditional psychoanalytic view, repression occurs when the ego either wards off instinctual energies from the id, or when it tries to subdue unreleased energy and excitement which occur as a result of trauma (Fenechel, 1945/1972, p. 119-121). More recent formulations of repression view it as a dimension along a continuum which describes how people characteristically respond to threatening stimuli. On the one extreme of this continuum is repression, which is characterized by the use of avoidance behaviors, such as denial and "forgetting." At the other extreme of this continuum is sensitization, characterized by predominantly approaching behaviors, such as intellectualization and obsessing (Byrne, 1961). Rosenheim and Muchnik (1984) argue that this continuum reflects two distinct cognitive and emotional reactions to threatening stimuli. While "repressors" defensively avoid anxiety-laden situations through "overlooking and naive denial," "sensitizers," Rosenheim and Muchnik note, employ "a counter-strategy of attempting to master fear by compulsively approaching and dealing with threat . . . in an overly rational and intellectualized manner" (p. 16). An implicit assumption of repression-sensitization as a personality variable is that individuals are consistent in their reaction styles to threat over a period of time (Byrne, 1961).

Research supports the contention that repression-sensitization is related to the way threatening information is responded to. Byrne (1961) notes the frequent finding that repressors and sensitizers have different recognition thresholds for emotionally-laden stimuli Eriksen and Lazarus (1952) have found that sensitizers take significantly less time than repressors to respond to aggressive and succorant words on a word association test. Sensitizers are also better able to recall affective words in a learning task than repressors (Eriksen, 1952). In response to sentence completion tasks, repressors have been found to give answers indicative of blocking, avoidance, denial and clichés (Carpenter, Wiener & Carpenter, 1956), while sensitizers responded with admission of inadequacy and failure, rationalization, intellectualization, and humor (Wiener, Carpenter & Carpenter, 1956).

Death may be one of the most threatening concepts that can be considered. Fortunately, a number of studies have investigated the relationship between repression-sensitization as a personality variable and death concerns. Using the repression-sensitization (R-S) scale developed by Byrne (1961), and an adaptation of Livingstone and Zimet's (1965) Death Anxiety Scale (DAS), Tolar and Reznikoff (1967) and later Handal, Peal, Napoli and Austrin (1984) found a significant positive correlation between the scales, such that sensitizers exhibited high levels of death anxiety and repressors exhibited low levels of death anxiety. Other studies have supported this finding. Handal and Rychlak (1971) found a positive correlation of .51 to .74 between the R-S scale and a death anxiety scale. Using a death concern scale of his own design, Dickstein (1972) similarly found a positive correlation such that sensitizers expressed significantly more fear of death than repressors. Tobacyk and Eckstein (1981) have been the only researchers to date to use the R-S scale in conjunction with the Threat Index. Similar to the studies above, a significant positive correlation was found, high death threat being related to a "sensitizer" approach, and low death threat being related to a "repressor" approach as indicated on the R-S scale.

An experimental technique originally developed by Feifel and Branscomb (1973) has been used to try to circumvent the tendency to deny or repress one's "true," possibly unconscious reactions to death. Basically the subject is asked to respond to either a neutral or a death related word, either by giving a word associated with it, or by naming the stimulus word's color (color-word interference task). The subjects' response time is the dependent variable, and is taken to represent the degree of "perceptual defensiveness" death arouses in the subject. According to Feifel, longer reaction times are indicative of higher death anxiety at "below the level of awareness." Unfortunately, the support for the validity of Feifel's measure of death anxiety is limited. While Feifel, Freilick, and Herman (1973) found that terminally ill patients took significantly longer to respond to death words than nonterminally ill patients, Handal, Peal, Napoli and Austrin (1984) found no relationship between this and other indirect (i.e. GSR response to death stimuli) or direct (Templer's DAS, Handal's DAS) measures of death anxiety.

Feifel's work, however, has apparently contributed to several recent studies on the relationship of death anxiety to repression. Based on the literature showing low death anxiety related to repression (as noted above), Littlefield and Flemming (1984) hypothesized that low death anxious subjects would take longer to respond to death words in a word association task. Their results did not support this, however, and they concluded that their findings lent support to the argument that low scores do indeed represent low death anxiety. The strength of their findings to support this conclusion is weakened, however, by the fact that they did not include a measure of repression-sensitization in their design. Using Byrne's R-S scale and measures of conscious and unconscious death anxiety they created for their study, Rosenheim and Muchnik (1984) found that sensitizers exhibited significantly stronger fears of death at the conscious level than repressors, but that repressors exhibited greater fear at the unconscious level, as measured by responses to TAT-like cards. Contrary to the Littlefield and Flemming (1984) finding, however, they found that repressors reacted more slowly to death related words in a word-association task, as predicted. Unfortunately, as a newly divised assessment, Rosenheim and Muchnik's (1984) measure of unconscious death anxiety (Death Anxiety Projective Test, or DAPT) has as yet limited support for its validity. While the extent to which the tendency to repress threatening information contributes to measured low death threat remains unclear, the research reviewed thus far suggests the need for further study of the variables of death threat, repression-sensitization and the processing of death-related information.

Within the theory of personal constructs, the ability to think about, and give new meanings to experiences is crucial for the growth and well-being of the person, for it enables the extension of the construct system and increased accuracy in anticipating. According to PCT, when we witness events and give them meaning, we are construing. Experience, according to Kelly (1955) is made up of the successive construing and reconstruing of the replication of events. Through construing the replication of events, we see orderliness in our world, and can better anticipate our changing environment. As we perceive and reconstrue events, our construct system changes, in order to incorporate the new meanings we discover. Similarly, if we do not perceive, think about and reconstrue events, our construct system will remain unaffected by them and suspended material will remain "repressed." No attitude change, learning, or persuasion would occur if events were not perceived, elaborated and reconstrued (Kelly, p. 75).

While studies investigating the relationship of repression to death anxiety have used either face-valid response trends to questionnaires or response latencies to stimuli-response tasks, no study to date has specifically examined the person's willingness or ability to think about and elaborate death-related information. As noted in the introduction, one of the primary aims of death education is to modify attitudes toward death and ultimately reduce death threat. As perception and elaboration of stimuli is necessary for such persuasion and attitude change to take place, it appears useful to investigate the processing of death education information as it relates to death threat.

Recently, a mini-theory and a model has been developed by Petty, Cacioppo and their collegues which examines elaboration in the context of persuasion. The next section will provide a brief review of their theory, model and research methods in order to provide a background for the paradigm of the present study.

Elaboration Likelihood Model

The Elaboration Likelihood Model (ELM) is a general theory of attitude change (Petty & Cacioppo, 1981) which "provides a fairly general framework for understanding the basic processes underlying the effectiveness of communication" (Petty & Cacioppo, 1986, p. 125).

Basically, it asserts that there are two distinct routes to persuasion: a central route and a peripheral route. The central route to persuasion is characterized by the careful and thoughtful consideration of information designed to persuade, while the peripheral route is marked by attitude change as a result of some cue in the persuasion context, without careful scrutiny of the merits of the information. Research suggests that central route persuasion is more enduring than peripheral route persuasion (Petty, 1977).

Taking the definition of attitudes as the "general evaluation people hold in regard to other people, objects, and issues" (p. 127), Petty and Cacioppo (1986) describe the ELM as based on several guiding assumptions or principles. First, following Festinger (1950), they postulate that "people are motivated to hold correct attitudes," but, that in spite of this motivation, "the amount and nature of issue-relevant elaboration in which people are willing or able to engage to evaluate a message varies with individual or situational factors" (second postulate, Petty & Cacioppo, 1986, p. 127-128). Petty and Cacioppo (1986) note that amount of elaboration can best be viewed as a continuum with no issue-relevant thought in response to an argument on one extreme, to extended elaboration of the argument on the other. The likelihood of elaboration is determined by a person's motivation and ability to evaluate the information. When conditions foster ability and motivation to process, the elaboration likelihood is said to be high, and the person engages in issue-relevant thinking producing personal thoughts and arguments in response to the message. This central route persuasion occurs when both ability and willingness to process information is high.

Peripheral route persuasion, on the other hand, is most likely to occur when either a person's ability or motivation to process information is low. In such a case, according to Petty and Cacioppo (1986), attitude change occurs when an argument is associated with various cues, or when it permits the use of simple inference rules.

Petty and Cacioppo describe the effect of these and other variables on persuasion in their third postulate: variables can affect the amount and direction of attitude change by (a) serving as persuasive arguments, (b) serving as peripheral cues, and/or (c) affecting the extent or direction of issue and argument elaboration (1986, p. 132).

Petty and Cacioppo (1986) note that for attitude to change in a positive direction, the thoughts generated in response to a message should be more favorable than the thoughts regarding the topic prior to message exposure. If predominantly favorable thoughts in response to a message occur, persuasion is said to result; if counterarguing occurs and unfavorable responses occur, resistance to persuasion is apparently taking place (Cacioppo & Petty, 1982). Thus, one way to bring about attitude change is to manipulate the amount of favorable or unfavorable thoughts that occur in response to an argument. This can be done, according to the postulate, by varying the persuasiveness of the message.

In the Elaboration Likelihood Model of persuasion, arguments are regarded as "bits of information contained in a communication that are relevant to a person's subjective determination of the true merits of an advocated position" (Petty & Cacioppo, 1986, p. 133). Because people differ on what kinds of information appear relevant and compelling in an argument, Petty and Cacioppo (1986) have designed an empirical technique for deriving arguments of different strengths or compellingness. Basically, they begin by producing a large number of either intuitively compelling or specious arguments in favor of a certain issue. People of the appropriate population are then asked to rate these statements for persuasiveness. Arguments with the highest and lowest persuasive ratings are then used to create one "strong" and one "weak" message. Finally, using the thought-listing procedure developed by Brock (1967) and Greenwald (1968), subjects are asked to list their thoughts in response to the message, and to code them as to whether they are favorable, unfavorable, or neutral. A "strong message" is thus designed as one containing arguments that generate predominately favorable thoughts when subjects are asked to think about it, while a "weak message" is defined as one that contains arguments that generate predominately unfavorable thoughts in response to the message (Petty & Cacioppo, 1986).

The third postulate also asserts that a simple cue can affect attitudes in the absence of argument processing. Research suggests that cues affect persuasion in two possible manners. First, cues can arouse emotions, that, when associated to the persuasive message, influence the direction and extent of attitude change. Studies using reinforcement, punishment, and heart-rate feedback have found attitude change occuring based primarily on these cues (Janis, Kaye, & Kirschner, 1965; Zanna, Kiesler, & Pilkonis, 1970). Second, Petty and Cacioppo (1986) note that cues can affect persuasion through invoking the use of guiding rules (i.e. "I usually agree with people I like"; see balance theory, Heider, 1946), or by invoking certain inferences (i.e. "I chose it, therefore I must like it;" see self-perception theory, Bem, 1972).

A third assertion of this same postulate is that a variable can influence the extent or direction of message processing. According to Petty and Cacioppo (1986), a variable can influence argument processing in either a relatively _objective_, or a relatively _biased_ manner. These represent two distinct styles of processing which Petty and Cacioppo describe in additional postulates.

Objective Processing

According to postulate four, objective processing occurs when the motivation and/or ability to process a message in a relatively objective manner is affected by a variable which either enhances or reduces argument scrutiny. By manipulating the argument quality (i.e. strong message-weak message) "along with some other variable, it is possible to tell whether that variable enhances or reduces argument processing in a relatively objective manner" (Petty & Cacioppo, 1986, p. 138).

Petty and Cacioppo (1986) give an example of an experiment with a control condition where the ability or willingness to process the persuasive arguments is "rather low." If a manipulation is created that enhances scrutiny in an objective manner, then the ELM would predict that a strong message should produce more agreement in the high scrutiny condition than in the low scrutiny (control) condition, but a weak message, however, should produce more agreement or favorableness in the low scrutiny condition than in the high scrutiny condition. The greater the ability or motivation to scrutinize or process a strong argument, the more persuasive it is. Yet, under high scrutiny, a weak argument becomes less persuasive than when presented in a condition where it cannot be readily processed. These are the relationships that occur when a variable affects motivation or ability to process in an objective manner.

Of the variables that affect the ability to process in an objective manner, two which have been most extensively researched are personal relevance/involvement, a variable which influences the motivation to process; and distraction, a variable affecting the ability to process.

Generally, an issue is regarded as personally relevant when people expect it to have significant implications for their own lives. The ELM predicts that, as personal relevance/involvement increases, people become increasingly motivated to process the issue-relevant arguments presented (Petty & Cacioppo, 1979). In a situation where a position has a great personal impact, a person is more likely to exert the cognitive effort to process the information than when in a situation where the personal impact is low. Typically, in experiments using college students, personal relevance has been manipulated by designing the messages to advocate a tuition increase either at their university (high relevance) or at some distant school (low relevance; Petty & Cacioppo, 1979).

Research supports the relationship between greater relevance and greater argument processing, as well as provides evidence for an interaction effect with message strength. Several studies have found that increasing message relevance produced an increase in favorable attitudes when the message was strong, but that when the message was weak increasing relevance led to a decrease in favorable attitudes (Petty, Cacioppo & Heesacker, 1981; Petty & Cacioppo, 1979, 1984).

Yet Petty and Cacioppo (1986) note that personal relevance as a factor may be confounded with the amount of prior knowledge a person has about a topic. A person for whom a topic holds high relevance often knows much about that topic, and probably has been motivated to elaborate it in the past. Because of this prior knowledge elaboration, a person would be practiced in defending his or her views, and would be less susceptible to persuasion. Also, such a person may be resistant to processing new arguments, because the person feels that he or she has already considered them in the past. Thus high relevance may not necessarily reflect a high motivation to process message arguments.

Another way a person's elaboration of a message can be objectively manipulated is through the use of a distraction which limits the ability to process information. In an early experiment by Allyn and Festinger (1961) subjects were presented with a counterattitudinal message in either a non-distraction or distraction condition. They found that persuasion was greater for subjects in the distraction condition. Festinger and Maccoby (1964) reasoned that the distraction served to disrupt the counterarguing that the message would have normally elicited, and therefore the message appeared more persuasive.

Work by Petty, Wells and Brock (1976) extended this formulation of the "counterargument disruption" hypothesis by examining the effects of distraction on pro-argument thoughts in response to a message. In their study, Petty et al. designed two messages, both arguing for a 20%

increase in tuition. The weak message contained specious arguments that elicited primarily unfavorable thoughts when subjects were asked to think about them, while the strong message contained arguments that elicited mostly favorable thoughts. Distraction was manipulated by requiring subjects to record the number and location of Xs which flashed on a screen while they heard the message. High, medium and low levels of distraction were presented. As expected from the Allyn and Festinger (1961) study, increasing distraction lead to more favorable attitudes when the message was weak, and also lead to decreased counterargument production. When the message was strong, however, increased distraction led to less favorable attitudes, as well as fewer favorable thoughts in response to the strong message. Subsequent research by Lammers and Becker (1980) and Tsal (1984) has supported Petty et al.'s (1976) findings. This evidence suggests that distraction not only serves to reduce counterarguing, but also serves to reduce pro-arguing as well. As such, Petty and Cacioppo (1986) argue that it affects the ability to process messages in a relatively objective manner. Also, unlike personal relevance, it appears distraction is potentially less confounded by subject's personal knowledge, as distraction should affect one's ability to process regardless of one's prior thinking or knowledge.

Biased Processing

As described above, variables such as personal relevance, distraction and others can affect processing in a relatively objective manner. Petty and Cacioppo (1986) contend that variables can affect processing in a relatively biased manner as well. Although they note that there are a number of ways to induce biased processing, they argue that often the bias results from a person's initial attitude acting as a variable affecting the processing of and favorableness toward the message. According to Petty and Cacioppo (1986) the objective processor searches for the true validity of a message, and for him (or her) the strong message produces more persuasion and the weak argument produces less persuasion when the arguments are equally processed. The biased processor, on the other hand, generates particular thoughts based on initial attitudes which augments processing in particular ways. A positive cognitive bias enhances the likelihood of favorable thoughts and reduces the likelihood of negative thoughts occurring in response to a message, and a negative cognitive bias would have the opposite effect. But a processing bias does not affect all types of messages equally. Petty and Cacioppo (1986) give the example of a person whose bias is "to counterargue (and not simply discount) an advocacy" (p. 163). That person will find the task of counterarguing weak messages easier than counterarguing strong messages. Said in different words, the person who's biased against a message will find it more difficult to argue against strong than weak arguments, yet his (or her) counterarguing will result in less persuasion or less positive attitudes in both the weak and strong message conditions. The person who is biased in favor of an argument, however, will find it difficult to argue against both weak and strong messages (which occurs easily in objective processing), and thus, for him (or her) both strong and weak messages would yield significant attitude change. This suggests that there would be significant differences in the persuasiveness of strong or weak messages between proargument biased and counterargument biased subjects. This was indeed found in a study by Cacioppo, Petty and Sidera (1982).

The above description of the ELM, although not exhaustive or strictly complete, provides an elaboration of the model's tenets that are relevant to the present study. As such, it provides a basis upon which to make predictions about the results that would occur when people process arguments in favor of death education. The following section will set forth these predictions as hypotheses.

Hypotheses

As described above in the introduction and in the review of research examining repression-sensitization, the differential processing of information by subjects either high or low in death threat may be one factor accounting for the variable impact death education has on altering attitudes toward death. The ELM has been selected because it provides a method for investigating information processing and persuasion, as well as providing specific hypotheses regarding the interaction of relevant variables. As such, it can be used to understand the behavior of high and low death threat individuals as they process information about death education. In order to put the present investigation in a form where the predictions of the ELM would apply, the current study will examine biased processors (i.e. subjects high or low in death threat) and how they elaborate strong or weak messages in favor of death education under conditions that manipulate their ability to process (i.e. high distraction/no distraction).

Several studies have found that scores on the Threat Index correlate with scores on Templer's (1970) Death Attitude Scale and the Collet-Lester Fear of Death Scale (Neimeyer & Chapman, 1980; Neimeyer & Dingemans, 1980; Rigdon, Epting, Neimeyer & Krieger, 1979). This suggests that high death threat is associated with high levels of general death anxiety, fear of death and fear of dying, while low death threat is associated with low levels of these measures. For a person high in death threat, it stands to reason that fearful and negative attitudes toward death would lead to a negative bias when processing an argument in favor of death education. Similarly, a person low in death threat would tend to have favorable attitudes toward death, and this would bias the person in a positive way when processing an argument in favor of death education. Because the present study will investigate such biased processing as described in the ELM, the first hypothesis will serve as an initial test of low and high death threat subjects as biased for and against death education. Hypothesis one can be stated as: High death threat subjects will exhibit significantly less favorability in attitudes towards death education than will low death threat subjects as measured across a range of Likert scales on a pretest.

In designing the present study, several design considerations discussed by Petty and Cacioppo (1986) were incorporated. When investigating biased processing, Petty and Cacioppo note the importance of including a condition where message processing is low, in order to serve as a baseline against which biased processing can be compared. Such a low processing condition can be achieved by disrupting subjects' message relevant thinking through the use of a distraction manipulation (Petty & Cacioppo, 1986). A distraction manipulation appears to be a better choice for reducing message processing than an issue-involvement manipulation because it is less confounded with the variable of prior knowledge. As biased processing would be most discernable where high levels of message processing occur, the hypotheses to be proposed will address the no-distraction condition of the present study.

Petty and Cacioppo (1986) also remark about the importance of including a manipulation of argument quality in the design. They note that "by manipulating argument quality along with some other variable" it is possible to discern "whether that variable enhances or reduces argument processing" (p. 138). For this reason the present study will use strong and weak arguments for death education in order to learn more about the biasing effect of death threat on the processing of pro-death education messages.

In their research on the ELM Petty, Wells, and Brock (1976) found that during objective processing of a message, a strong argument produces greater persuasion when it can be highly scrutinized (i.e. no distraction) than when it can not be highly scrutinized. In biased processing, however, the counterarguing of subjects negatively biased toward the argument would result in a tendency for decreased persuasion (decreased attitude favorability) while the pro-arguing of subjects positively biased toward the argument would result in a tendency for increased persuasion (increased attitude favorability; Cacioppo, Petty & Sidera, 1982). The attitudinal bias of high and low death threat subjects should bias their processing of an argument for death education in a similar fashion. The second hypothesis of the present study is that high death threat subjects will exhibit a proportionally larger number of unfavorable thoughts (counterarguments) and a smaller number of favorable thoughts than low death threat subjects when responding to a strong argument in favor of death education in a low distraction condition.

As noted above, biased processing not only has implications for the type of thoughts generated by a message, but also for the attitudes that result from a message. According to the third postulate of the ELM, variables can affect the amount of attitude change by influencing the extent or direction of argument elaboration (Petty & Cacioppo, 1986). Since it has been predicted that high death threat subjects will have a greater proportion of unfavorable thoughts, it is likely, according to this postulate, that high death threat subjects will exhibit attitudes unfavorable to death education as well. The third hypothesis of the present study can therefore be stated as follows: High death threat subjects will exhibit significantly less attitude favorability than low death threat subjects when responding to a strong argument favoring death education in the no distraction condition.

Turning again to the thoughts generated by high death threat subjects when processing messages, it has already been noted in the review of the literature that subjects high in death threat tended to be sensitizers (Tobacyk & Eckstein, 1980). The fourth hypothesis of the present study will predict a replication of this finding: A significant positive relationship will be found between death threat and repression-sensitization, so that high death threat will be associated with high sensitization.

Since sensitizers have been characterized as using approach behaviors such as obsession and rationalization in their defensive posture toward threatening stimuli (Byrne, 1961), it follows that sensitizers will produce a greater number of message-relevant thoughts than compared to repressors. The fifth hypothesis of the present study will then predict that a significant positive relationship will be found between repression-sensitization and the number of thoughts produced, so that high sensitization will be associated with larger numbers of issue-relevant thoughts.

From the last two hypotheses described above, a final correlational hypothesis can be derived.
The sixth hypothesis is that a significant positive relationship will be found between death threat and the number of thoughts produced, so that high death threat will be associated with production of larger numbers of issue-relevant thoughts.

The significance of the present study can be seen in the implications the predicted outcomes would have for programs of death education. Coming to terms with one's own death has traditionally been a method toward personal growth as propounded by the existentialists (Heidegger, 1962; Sartre, 1956), and one of the factors contributing to the growth of death education programs has been the continuance of this belief. Yet, for a student to be able to learn and grow from death education, he or she must first be willing and able to process the information presented. This study will first investigate whether subjects high in death threat are attitudinally biased against death education. Should the present study find evidence of limited or biased processing of death education information, then future studies may profitably search for variables that can improve this processing with the result of improved attitudes and openness towards death education, and the increased potential for reduced death anxiety and better adjustment to life.

CHAPTER III

METHODOLOGY

Subjects

Participants in the study were undergraduate students enrolled in elective courses in personal growth or marriage and the family. Students voluntarily completed a screening packet (see Procedure, below) and received course extra credit if they decided to participate in the experimental portion of the study. Of the 248 participants who completed the screening, 158 volunteered for the experiment. The responses of 13 subjects were not used in the final analysis because their responses failed to meet specified criteria (see Procedure). Subjects' age ranged from 17-37 ($\overline{X}$ = 20.95, SD = 2.81), and 70 males and 75 females comprised the final subject group.

Instruments

The five questionnaires for this study included two versions of the Threat Index (TI), the Controlled Repression-Sensitization Scale (CR-S), the Background Data Sheet (BDS) and the Post-Tape Questionnaire (PTQ). Also included as part of this study was a measure of issue-relevant thinking (i.e. the Thought Listing Technique or TLT).

Threat Indexes (TI)

Because of the limited time available for screening and testing subjects, the present study used provided forms of the TI, where constructs do not have to be individually elicited from the subject, but rather are provided. First developed by Krieger, Epting and Hays (1979) the original version of the provided TI used forty constructs (TIp40). Subsequent versions of the TIp have used as few as 30 constructs (TIp30; Neimeyer, Dingemans, & Epting, 1977; Rigdon, 1982). Correlations between various provided forms of the TI have generally been found to be high (Neimeyer, Dingemans & Epting, 1977; Rigdon, Epting, Neimeyer & Krieger, 1979).

The present study utilized two versions of the TIp30 using the constructs provided by Rigdon (1982). In both versions a scaler form (see Appendix A) of the TI was used, first developed by Neimeyer, Dingemans and Epting (1977). Subjects are asked to rate certain elements along 13-point scales with the construct poles as the endpoint.

A three-element version of the TIp30 was used to initially screen potential participants for high and low death threat (an independent variable). In this form, students were asked to rate the standard elements myself (as I am now), my ideal self (or the way I would prefer to be living), and my own death (think of your death as if it were to occur at this time in your life) along each of the 30 construct scales. They were then asked to make a second choice for those constructs on which they responded with the zero point. In order to control for an order effect, the 30 constructs were presented to each participant in three random orderings.

Death threat scores for the three-element TIp30 are scored by counting the number of splits, that is, when self and ideal self are rated on the same pole, and my own death is rated on the opposite pole of the same construct. For example, an individual who rates his (or her) self and ideal self as "kind" but death as "cruel" would receive a split score of one. A person's death threat is operationally defined as the number of split scores. The higher the number of split scores the higher the person's death threat (Krieger, Epting & Leitner, 1974).

A second version of the TIp30 was included in the present study as a test-retest validity measure of the TI scores collected during the screening. In addition to the self, ideal and death elements, this version contained an additional seven elements (see Appendix B) derived from Rigdon (1982). These additional elements were included in order to derive measures of integration and differentiation from the TI--measures of cognitive complexity (Landfield, 1977) that would be used in future analyses outside the scope of the present study.

Validity. Several studies have investigated the construct validity of the TI. Krieger, Epting and Hays (1979) found that subjects showed a strong tendency to judge themselves as "comfortable" and death as "terrifying," supporting the assumption that split scores for self and death represent a measure of threat as defined by Kelly (1955). Additional support for construct validity has been provided by Rainey and Epting (1977) who found that subjects who had made pre-need burial arrangements were significantly lower in death threat than relevant comparison groups. Finally, in a factor analytic study by Rigdon and Epting (1981), death threat was found to load highly on one factor they termed "general negative response to personal death" (p. 144).

Evidence also exists for the convergent validity of the TI. When the TI was correlated with the Collet-Lester Fear of Death Scale, correlations were highest with the overall score and the Fear of Death of Self subscale (Neimeyer and Chapman, 1980; Neimeyer and Dingemans, 1980). With Feifel's assessment for three levels of death awareness, the TIp40 was found to significantly correlate with measures of conscious and fantasy levels of death fear (Epting, Rainey & Weiss, 1979). Significant correlations have also been found between the TI and Dickstein's Death Concern Scale (Tobacyk & Eckstein, 1981), the Sarnoff-Corwin Fear of Death Scale, and the Ray-Najman Death Acceptance Scale (Warren, 1985).

Warren (1985) has found no significant correlation between the TI and Templer's (1970) Death Anxiety Scale, and Rigdon et al. (1979) note that the correlation between these two measures are generally lower than what is found between other scales. Krieger, Epting & Leitner (1974) suggest that this may be due to the apparent tendency of the DAS to measure anxiety and affective arousal regarding death, while the TI appears to measure a person's more stable cognitive orientation toward death (Rigdon et al., 1979). Also, research has found no significant correlation between the TI and measures of social desirability (Krieger, Epting & Hays, 1979).

Reliability. The various forms of the TI have been found to have high test-retest reliability, with correlations of between .8 and .9 being reported for periods of up to three months (Krieger et al., 1979; Neimeyer et al., 1977; Rainey & Epting, 1977). The test-retest reliability of the TIp30 has been reported as r = .73 for a seven-week period (Rigdon, 1982). Internal consistency of the TIp30 also appears to be high, with alpha coefficients of .90 and .92 being reported (McInnes & Neimeyer, 1980; Rigdon, 1982).

Controlled Repression-Sensitization Scale (CR-S)

The original and later revised version of the Repression-Sensitization Scale devised by Byrne was composed of items selected from the MMPI (Byrne, 1961; Byrne, Barry, & Nelson, 1963). The CR-S has been designed by Handal (1973) as an improvement of Byrne's scale, in that it controls for social desirability and acquiescence.

It consists of 30 items, 15 keyed true and 15 keyed false. Evidence for the reliability and validity of the CR-S is based on its correlation with the earlier Revised Repression-Sensitization scale (RR-S) of Byrne, which was shown to have adequate reliability, internal consistency, and concurrent and face validity (Byrne et al., 1963). A correlation coefficient of $r = .51$ ($p < .01$) was found between the CR-S and RR-S, and consistent with previous research, no sex differences in R-S scores were found for either scale (Handal, 1973). Similar to the RR-S, the CR-S was found to correlate significantly with Handal's Death Anxiety Scale (Handal,1973; Handal & Rychlak, 1971). A nonsignificant correlation found by Orlofsky (1976) between the CR-S and the Crowne-Marlowe Social Desirability Scale supports the validity of the assertion that the CR-S scale is largely free of social desirability response bias.

Background Data Sheet(BDS)

The BDS (see Appendix C) was constructed for the present study to assess demographic variables, religious beliefs, and the frequency the participants thought about death. In addition, two series of items were designed to assess participants' interests and attitudes toward death education. The first set consisted of a series of seven questions with 7-point Likert response scales designed after those used in an ELM study by Heesacker (1986). Items number 1, 3, 5, and 7 (see Appendix C) were specifically designed to address the participants' personal interest and willingness to learn more about death and dying, while items number 2, 4, and 6 were designed to address the favorableness towards death education for "people in general." Participants' scores from the items tapping personal interest and willingness toward death education (items 1, 3, 5, 7, & 8) were summed as a measure of attitude favorability and used in the test of the present study's first hypothesis.

The second series of items consisted of a Guttman scale composed of nine self-statements descriptive of increasing interest in learning more about death and dying (i.e. "I am not interested in learning more about death and dying" to "I am interested in taking a semester course in death and dying.") Constructed for this study, the items for this scale were generated and then rank-ordered by volunteers according to the amount of interest in learning more about death and dying described. The nine items with the most consistency in their rankings were chosen for this scale, and these served to operationalize death education by giving subjects a view of some of its common components.

Post-Tape Questionnaire (PTQ)

The PTQ (See Appendix D) contains four items with 7-point Likert response alternatives designed to assess the effectiveness of the distraction and argument quality manipulations. Adapted from Heesacker (1986), these questions address the quality of the argument, its personal impact on the participant (i.e. involvement quality), and its ability to hold his or her attention. As a manipulation check of the distraction condition subjects were asked to evaluate the extent to which they could concentrate on the content of the messages presented on the tape.

The remaining questions on the PTQ duplicate the attitudinal (i.e. Likert-response and Guttman scale) questions of the BDS, and were used as dependent measures in testing the third hypothesis. A final item on the PTQ assesses the participants' commitment to learning more about death and dying by offering the opportunity to sign up "to find out about a mini-course being offered in death and dying." This item and the three assessing favorableness toward death education in general were used for additional analyses.

Thought-Listing Technique (TLT)

Originally developed by Brock (1967) and Greenwald (1968), the TLT is a method for assessing cognitive responses following persuasive stimuli that has been used extensively in ELM research (see Appendix E).

Following presentation of the persuasive message and instructions for the task (see Procedure, below), participants were given a sheet containing 25 horizontal lines, each about ½ inch apart upon which to list their thoughts in response to the tape. At the top of this page will be printed the reminder to "Please list the thoughts you had concerning the message you heard on the tape." Following the procedure of Osterhouse and Brock (1970) subjects were given a three-minute time limit in which to record their thoughts. The number of thoughts listed served as the first dependent measure derived from this technique, and was used to test the fifth hypothesis.

The second dependent measure from the TLT was derived from subjects' codings of the valence of their thoughts. Participants were instructed to code their thoughts as either "in favor of the idea of taking a death and dying course" by writing a plus (+) beside the thought; as "opposed (-)," or as "neither in favor of...nor opposed to (o)" taking a death and dying course. This procedure has been used by Cacioppo, Glass, and Merluzzi (1979) and others because it circumvents the problems inherent when judges code the thoughts (Cacioppo & Petty, 1981). Measures of the proportion of favorable (+) thoughts and unfavorable (-) thoughts relative to the total number of thoughts produced will be used in testing the second hypothesis.

A number of studies address the reliability and validity of the TLT. Cullen (1968) found a split-half reliability of $r = .78$ and a test-retest reliability of .64 for the TLT. The validity of the TLT has been explored by studying its relationship to other variables. For example, Cacioppo, Glass and Merluzzi (1979) found that male subjects who scored high on a scale of social anxiety were more likely to generate negative self-statements (via the TLT) than subjects scoring low on social anxiety. Cacioppo and Petty (1982) found that, as predicted, subjects who were high in measured need for cognition produced more thoughts in a brainstorming task that subjects who were low in need for cognition. In a study investigating the common finding that group situations inhibit individuals from acting (Latané & Darley, 1970), it was found that participants who were given sole responsibility for a task generated significantly more thoughts in a brainstorming task than subjects who shared the responsibility with a group (Harkins & Petty, 1982) Additional support for the validity of the TLT is found in studies investigating the effect that manipulations of motivation (Petty & Cacioppo, 1979a, 1979b) and distraction (Petty, Wells & Brock, 1976) have on issue-relevant thinking (Cacioppo & Petty, 1981).

Manipulations

Participants were selected on the basis of their death threat scores (determined during screening) and randomly received either strong or weak arguments in favor of taking a death and dying course, under either distraction or no distraction conditions. Thus a 2 (high-low death threat) X2 (strong-weak message) X2 (distraction-no distraction) between-subjects fully-crossed factorial design was implemented for the study. The following sections describe the construction of the message and distraction manipulations.

Message Construction

Following the procedure described by Petty and Cacioppo (1986), volunteers were asked to generate approximately 50 arguments (i.e. single statements) that were in favor of taking a course in death and dying and that were either specious or intuitively compelling. Duplicate or similar arguments were removed from consideration. The 23 remaining statements were then rated by volunteers on 5-point Likert scales according to the "strength or weakness" of its argument for taking a death and dying class. The five "strongest" strong statements and the five "weakest" weak statements were then selected based on the extremity of their ratings.

The strength or weakness of each of these 10 arguments was then further clarified by having a large group of volunteers respond to the statements using the thought-listing technique as described above (each volunteer received one statement). Based on difference scores, the four strong arguments that elicited the highest mean number of positive thoughts and the lowest mean number of negative thoughts were selected for use in constructing the strong argument message. Similarly, the four weak statements that were selected to construct the weak argument message were those that elicited the highest mean number of negative thoughts and the lowest mean number of positive thoughts. Both the final weak message and the final strong message were composed of four main arguments and were of similar lengths (see Appendix G and H for text of arguments).

Distraction Construction

An auditory distraction task was used. Research by Keating and Brock (1971) supports its use, for they found that vocal tasks result in more effective distraction than visual or manual distraction tasks when listening to persuasive messages. A distraction task similar to that used by Tsal (1984) was selected for the present study, namely, counting out loud the number of beeps heard on a tape.

Following the suggestion of Cacioppo and Petty (1981), auditory stimuli were pretested to select the one that would interfere with the cognitive elaboration of the argument, yet leave the reception of the message relatively intact. Beeps of random inter-stimulus intervals (ISI) were generated by a Commodore 128 computer. Beeps of several different ranges of ISI values were pretested for their distraction potential under conditions analogous to the actual experiment. Volunteers listened to either strong or weak arguments upon which the sound of the beeps was superimposed. They were asked to count the beeps out loud. They then rated the amount of message distraction imposed by the beeps on a 7-point scale, and were asked to complete a TLT for the message. Finally, volunteers listened to a message without distraction and completed another TLT in order to assess their cognitions without distraction.

Two of the three alternatives tested proved to be unsuitable, causing either too little or too much disruption of the thought-listing task. The particular distraction stimuli chosen for the present study reduced thought production by an average of 26.5% and was rated as 5.5 on a 7-point scale (with 7 signifying extreme levels of distraction). This distraction was composed of random beeps with no less than ½ seconds and not more than 3 seconds between them. Subjects in the distraction condition of this study heard this stimuli superimposed over either the strong or weak message.

Procedure

Participants were screened in order to determine their levels of death threat as an independent variable of the study. Appropriate members of high and low threat subject groups were then contacted four to six weeks later and asked to participate in the experimental portion of the study.

Screening

Participants were approached during class time and asked to participate in a study "about the different ways people view death." All those asked completed the screening packet during the last 15 minutes of their class period. Each packet contained a cover sheet requesting their name and last four digits of their social security number (for scheduling purposes), a Background Data Sheet (BDS), and a three-element TIp30 (i.e. self, ideal self, and own death; see Appendix A).

Subjects' death threat scores were tabulated before their participation in the experiment in order to insure adequate numbers of subjects in the various conditions based on this variable. Subjects were placed in conditions of the experiment according to their death threat scores as determined from their screening responses. Using a median split of the group's distribution of scores, a death threat score of less than six qualified a person for inclusion in a low death threat condition, while a score of greater than six was the requirement for inclusion in a high death threat group. A signifigant difference [$t(247) = -18.74$, $p < .0001$] was found between the means of these two groups.

Of the 158 volunteers for the experiment, the responses of four subjects were removed from the final data set because their death threat score was six, the median value. The responses of nine volunteers were also removed from the analysis because they had either not participated in the screening (and thus had no death threat designation), or had not written their name and social security number on their test packet (preventing the matching with their screening responses). Thus, in total, the responses of 145 subjects were used in the data analysis.

Experiment

Four to six weeks after screening, subjects were approached during their class period and asked to participate in the second part of the study for class credit. Sign-up sheets were then passed out to schedule their attendance in the experimental sessions.

Because of the limitations imposed by subject scheduling difficulties and the small group administration of the experiment, cells of equal subject Ns were not obtained for the experimental conditions, yet these differences in cell sizes were not significant, $X^2(3) = .36$, $p > .05$. When tested for randomization of gender across conditions, a Chi-square statistic revealed no significant differences in the distribution of males and females across cells $X^2(7) = 13.87$, $p > .05$. Subject distributions across experimental conditions are presented in Table 1.

Sessions took place in a language lab, a setting where up to 28 individuals at a time can listen to the taped messages via headphones while sitting in private booths. Once seated, participants heard a short statement of the purpose and procedures of the experiment as stated in the the screening portion of the study.

Table 1

Distribution of Subjects in Experimental Conditions

	Death Threat	
Experimental Condition	High	Low
Strong Message		
Distraction	21 (15/6)	18 (9/9)
No Distraction	17 (5/12)	16 (8/8)
Weak Message		
Distraction	17 (10/7)	18 (5/13)
No Distraction	20 (7/13)	18 (11/7)

Note. Numbers in parentheses represent the number of males/number of females for each condition.

Participants then received the testing packet, and were asked to read the first page of instructions, designed after Heesacker (1986; see Appendix F).

Participants in the distraction conditions received the same set of instructions but with the following instructions in place of the paragraph asking them to "Please listen carefully...":

> As a test of the equipment you will also hear a number of clicks or beeps on the tape during the message. Your task in this part of the study is to count the number of clicks on the tape. Each time you hear a click, count out loud "one," "two," etc., speaking into the microphone attached to your headphones.

Once everyone had read the above instructions and had put on their headphones, they then heard either the strong argument message (see Appendix G) or weak argument message (see Appendix H). Subjects in the distraction condition heard random beeps of ½ - 3 second ISI superimposed on whichever message they received.

Following the message, all participants heard instructions to turn to the next page and and read the instructions titled THOUGHTS REGARDING A STATEMENT (see Appendix I).

After a two-minute pause for reading the above instructions, participants then heard instructions to turn the page and begin the TLT: "Please list the thoughts you had concerning the message you heard on the tape, listing one thought per line."

When three minutes had passed subjects heard instructions to: "Please stop writing now and turn to the next page with the heading Post-Tape Questionnaire. Take a few minutes now to answer these questions. Then listen for further instructions."

After a three-minute pause for subjects to complete the PTQ they heard instructions to turn to the next page headed THOUGHT-CODING and follow its instructions (see Appendix J). The thought-coding portion of the TLT was made to follow the Post-Tape Questionnaire so that the subject's perception of the number of favorable or unfavorable thoughts elicited would not bias his or her attitudinal responses on the PTQ.

Following a three-minute pause to complete the thought coding task, participants heard:

> Now that you have completed the coding of your list of thoughts, please proceed to answer the remaining questionnaires in your packet, beginning on page number 7. Please read fully all instructions before you begin each questionnaire. If you have any questions while completing these, raise your hand. This now marks the end of the taped instructions. You may now remove your headphones.

The remainder of the testing packet contained the 10-element TIp30 and the Controlled R-S scale in random order. The last page of the test packet instructed participants that all tasks of the investigation have been completed, and that they may come up to the front of the room to receive a debriefing statement (see Appendix K) and experimental credit for their participation. The entire experimental procedure took approximately 45 minutes.

CHAPTER IV

RESULTS

Preliminary analyses were conducted to assess the demographic variables of screening participants and their intercorrelations with dependent variables. The randomization of subjects across experimental conditions was then examined, along with the intercorrelations among dependent variables.

Major analyses were conducted to examine the main and interactive effects of the independent variables on the dependent variables as a test of the first three hypotheses as stated in Chapter II. The interrelationship of the variables death threat, number of thoughts and repression-sensitization score was examined to test the remaining three hypotheses.

All data were analyzed using Statistical Analysis System (SAS) procedures. The least squares method of analysis-of-variance procedures was used to accommodate unequal cell sizes. All *t*-tests were two-tailed unless otherwise noted, and tests for homogeneity of variance were conducted for unbalanced data. All correlations are Pearson product-moment correlations.

Preliminary Analysis

Of the 248 persons participating in the screening procedure, 132 (53.2%) were females and 116 (46.8%) were males, and the mean age was 20.92 (SD = 2.43). Blacks comprised 8% (N = 20) of the total, and other non-whites were 5% (N = 13) of the total participating. The religious background of the screening participants included 33% Catholic (N = 88), 14% Jewish (N = 35), 39% Protestant (N = 99), 5% Agnostics (N = 13) and small numbers of other groups (i.e. 2 Atheists and 6 "other" as reported religious backround). A majority of respondents (55.6%) reported being members of a church, while 28.6% reported having had a "close brush" with death.

The mean reported level of religious devotion was 4.5 (SD = 1.85), where 7 represented "inactive" and 4 represented "moderately devout." Given seven response alternatives, the modal response of the screening participants was that they "strongly agree" (N = 113) with the statement that "there is life/existence after death." When asked "How often do you think about death, on the average (i.e. more than just a fleeting thought), a majority of screening respondents (72.2%, N = 179) answered "several times a month" or less. The modal response they gave (N = 68) was that they only thought about death several times a year. No significant differences were found between the mean scores for males and females for these items addressing religious devotion

[$t(246) = .38$, $p > .05$], belief in life after death [$t(246) = .20$, $p > .05$)] or thinking about death [$t(246) = .49$ $p > .05$]. Correlational analyses revealed that responses on these same three items were not related to age (all r's $< .064$, all p's $> .26$).

Subjects' responses to the eight attitudinal dependent measures (addressing attitudes toward death and dying) on the screening questionnaire were highly correlated with their responses to the same items on the post-experiment questionnaire (all r's $> .49$, all p's $< .0001$.), and no significant differences between repeated measures were found. It should also be noted that the intercorrelation between each of these eight attitudinal measures was significant and positive without exception, suggesting that these items all measure attitude favorability toward death education. Response means and an intercorrelation matrix for these items is presented in Table 2. Significant differences between males and females in responding to these eight attitudinal measures will be discussed as results of an ANOVA in the Major Analysis section below.

These eight attitudinal measures were also found to be related to a behavioral intention measure of favorability toward death education. At the completion of the experiment subjects were given the opportunity to sign up to receive more information about taking a (bogus) mini-course course in death and dying. Out of 145

Table 2

Mean Scores and Intercorrelations of Items Measuring Favorability Toward Death Education

ITEM/MEAN	L	H1	H2	S1	T	R	S2	I
LEARN (L) 4.65	*	.64	.64	.58	.65	.42	.69	.58
HELPST (H1) 5.58		*	.71	.62	.52	.55	.53	.43
HELPYOU (H2) 4.92			*	.55	.61	.55	.63	.48
SESSION (S1) 5.62				*	.49	.43	.46	.38
TAKELEC (T) 4.18					*	.36	.86	.59
REQUIRED (R) 5.13						*	.39	.31
SIGN UP (S2) 4.16							*	.69
INTEREST (I) 4.43								*

Note. All correlations are positive with $p < .0001$.

L = In general, how interested are you in learning more about death and dying through reading, attending a lecture, etc?

H1 = How much do you think a course on death and dying would help students to better understand and deal with death?

H2 = How much do you think such a course would help you to better understand and deal with death and dying?

S1 = What is your attitude about having a class session of the Introduction to Psychology course devoted to death and dying?

T = How likely would you be to take a course in death and dying if it was offered as an elective?

R = What is your attitude about making a course in death and dying a required part of the curriculum for psychology majors?

S2 = In general, how interested are you in signing up for a course to learn more about death and dying?

I = Please check the one statement below which best describes you (Guttman interest scale).

subjects, 97 (66.9%) signed. Whether or not subjects signed up was found to be highly related to their favorability toward death education as expressed in the eight attitude measures. A MANOVA analysis found a significant overall "signing up" effect across these eight measures, Hotelling-Lawley's trace $\underline{F}(8,137) = 8.9$, $\underline{p} < .0001$. This strong relationship with a behavioral measure lends support for the validitity of these measures of favorability toward death education.

Analysis of death threat scores for all 248 screening participants revealed a mean score of 9.1 with a SD of 8.62. The distribution of scores appeared to be bimodal, with modal values for death threat scores of 0 (N = 37) and 15 (N = 9). A correlation of $\underline{r} = .60$, $\underline{p} < .0001$ was found between scores on the death threat index administered during screening and the index completed following the experiment, supporting its test-retest reliability over a 6-week period. The mean death threat score for subjects completing both the screening and the experiment (N = 145) was found to be 9.34 (SD = 8.67) at screening and 12.60 (SD = 9.12) post-experiment. This difference in death threat scores was significant, $\underline{t}(144) = 4.92$, $\underline{p} < .01$.

Examining the relationship of death threat scores with the attitudinal measures obtained at screening, death threat was found to correlate significantly with religious devotion, $\underline{r} = .22$, $\underline{p} < .0005$. This indicates that higher death threat was associated with greater reported religious devotion. In support of this correlational finding, a significant difference was found in mean reported degree of devotion between the high ($\bar{X} = 4.85$) and low ($\bar{X} = 4.16$) death threat groups, $t(236) = 2.97$, $p < .01$. Death threat also correlated significantly with strength in belief of life after death, $r = .28$, $p < .0001$. The higher one's death threat, the less one tended to agree with the statement "There is life/existence after death." A significant difference in the mean scores on this item for high ($\bar{X} = 2.58$) versus low ($\bar{X} = 1.92$) death threat subjects supported this finding, $t(236) = 3.30$, $p < .01$. Death threat scores did not significantly correlate with age ($r = -.01$, $p < .35$, n.s.) or frequency of thinking about death ($r = .06$, $p < .35$, n.s.). Also, no significant differences were found in the death threat of subjects who had experienced a close brush with death and those who had not [$t(130.5) = -.36$, $p < .72$] and those who had signed up for a death education course and those who had not [$t(90) = .133$, $p < .89$]. Death threat did not significantly correlate with any of the eight measures of attitude favorability toward death education.

Major Analyses

This section will present evidence supporting the effectiveness of the experimental manipulations, followed by an examination of the contribution of the subjects' sex and age to the experimental results. Tests of the hypotheses will then be presented.

Manipulation Checks

Distraction. Results from the items of the Post Tape Questionnaire designed as a manipulation check indicate significant effects as expected. A main effect for distraction was found when subjects reported their ability to concentrate on the message [$F(1,136) = 187.75$. $p < .0001$], thus revealing that ability to concentrate as recorded on a 7-point scale is significantly less in the distraction condition ($\overline{X} = 2.23$) than in the no distraction ($\overline{X} = 5.55$) condition. A similar distraction main effect was found when subjects were asked the extent to which the message held their attention, $F(1,137) = 96.86$, $p < .0001$ (no distract $\overline{X} = 5.24$, distract $\overline{X} = 3.11$). Distraction also had a significant effect on the extent to which the message had (reported) personal implications for the subjects, $F(1,137) = 15.54$, $p < .0001$ (no distract $\overline{X} = 4.20$, distract $\overline{X} = 3.22$).

While the data from the measures specifically designed to check the distraction manipulation support its efficacy, other findings do not. Contrary to evidence gained in pilot testing, the distraction manipulation did not appear to significantly reduce the total number of thoughts, positive or negative, that subjects produced following the message in the experiment; no significant main effects for distraction were found for the number of thoughts [$\underline{F}(1,137) = .06$, $\underline{p} < .81$, n.s.], positive thoughts [$\underline{F}(1,137) = 3.07$, $\underline{p} < .081$, n.s.], or negative thoughts [$\underline{F}(1,137) = 1.96$, $\underline{p} < .16$, n.s.]. Correlational findings yield no evidence of a significant relationship between the self-report measure of concentration--which was highly related to distraction--and the total number of thoughts ($\underline{r} = .02$, $\underline{p} < .80$, n.s.). The number of positive thoughts, however, correlated significantly with subjects' reported ability to concentrate on the message.($\underline{r} = .33$, $\underline{p} < .0001$).

Message quality. For the item assessing the perceived quality of the argument on the tape a main effect for the message quality manipulation was found, $\underline{F}(1,136) = 15.79$, $\underline{p} < .0001$, such that subjects in the weak argument condition rated the arguments as of a significantly lower quality ($\overline{X} = 4.14$) than subjects in the strong argument condition ($\overline{X} = 5.01$). A main effect was also found for distraction on this question, $\underline{F}(1,136) = 9.24$, $\underline{p} < .003$, such that subjects in the distraction condition rated the arguments as of a significantly lower quality ($\overline{X} = 4.25$), than subjects in the no distraction condition ($\overline{X} = 4.89$). These two main effects for this measure should be qualified, however, for a three-way (death threat x message quality x distraction) interaction is also found, $F(1,136) = 4.14$, $p < .04$, as depicted in Figure 1. Post-hoc t-tests found that low death threat subjects judge the quality of the strong argument to be significantly better [$t(30) = 3.05$, $p < .005$] in the no distraction condition ($\bar{X} = 5.56$) than in the distraction condition ($\bar{X} = 4.06$). A similar tendency was found for high death threat subjects, but did not reach significance. Argument quality was judged to be significantly greater in the strong message conditions than in the weak message conditions for both high and low death threat subjects in no distraction conditions. [$t(33) = -2.8$, $p < .007$; $t(34) = -2.38$, $p < .023$, respectively].

Also, post-hoc t-tests revealed that while there appear to be no significant differences between how the high death threat and low death threat subjects rated argument quality in the no distraction conditions, [$t(31) = -.18$, $p < .85$, n.s. for strong message condition; $t(36) = -.26$, $p < .79$, n.s. for weak message], there does appear to be a significant difference between high and low death threat subjects in the distraction conditions. In the strong argument condition, high death threat subjects judged the argument to be of a significantly greater quality ($\bar{X} = 4.95$) than the low death threat subjects judged it to be [$\bar{X} = 4.05$; $t\ (27) = -2.0$, $p < .05$]. In the weak argument condition, however, the inverse was true:

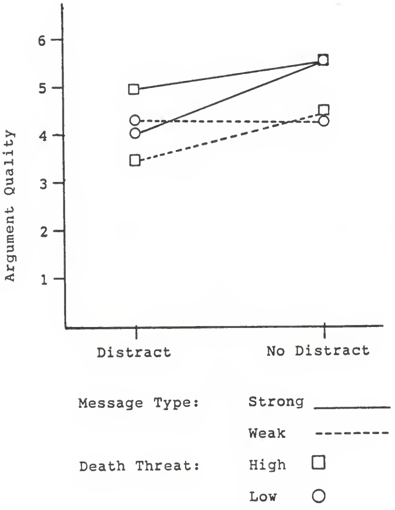

Figure 1. The Argument Quality Interaction

high death threat subjects judged the argument to be of significantly lesser argument quality ($\bar{X}$ = 3.47) than the low death threat subjects judged it to be [$\bar{X}$ = 4.33; $\underline{t}(30) = 2.05$, $\underline{p} < .05$]. In summary, then: The findings of main effects on the manipulation check items during a distraction condition support the effectiveness of the distraction manipulation. The argument quality manipulation is also supported by the finding of a significant main effect, but this evidence is qualified by the fact that a significant argument quality x death threat x distraction interaction exists for the argument quality manipulation check measure.

Sex Effects

A four-way ANOVA of sex x death threat x message quality x distraction revealed significant main effects for sex on five of the eight measures of attitudes toward death education. In all significant cases females expressed more favorable attitudes toward death education than males, reflecting mean differences at the .05 level of significance. The statistics that follow represent the significant findings of Student Newman-Keuls post-hoc tests and the greater the mean shown, the greater the subjects' favorability. Females thought a course in death and dying would be more helpful ($\bar{X}$ = 5.88) to "students in general" than male subjects thought it would be [$\bar{X}$ = 5.26,

$F(1,128) = 5.46$, $p < .02$]. They also thought such a course would be more helpful to themselves ($\overline{X} = 5.36$) than males did [$\overline{X} = 4.42$, $F(1,128) = 8.2$, $p < .005$]. Females appeared to be more in favor of having a class session in psychology devoted to death and dying ($\overline{X} = 6.09$) than males [$\overline{X} = 5.08$, $F(1,128) = 13.63$, $p < .0003$], and similarly, females were more in favor ($\overline{X} = 5.55$) of making a death and dying course a required part of the psychology curriculum than males [$\overline{X} = 4.63$, $F(1,128) = 8.89$, $p < .004$). Finally, the mean response for females ($\overline{X} = .48$) indicated that they were more in favor or signing up for a course in death and dying than males [$\overline{X} = 3.76$, $F(1,128) = 3.98$, $p < .048$].

The sex of subject was found to effect and interact with several dependent measures used in the experimental portion of the study. A main effect for sex was found such that females reported that the taped message held their attention to a significantly greater degree ($\overline{X} = 4.45$) than that reported by male subjects ($\overline{X} = 3.87$; $F(1,128) = 4.16$, $p < .04$). Sex was found to significantly interact with the subjects' death threat in affecting the total number of thoughts produced [$F(1,128) = 6.62$, $p < .01$] as shown in Figure 2. Post-hoc t-tests revealed that low death threat males produced a significantly greater number of thoughts [$\overline{X} = 5.97$, SD = .05, $t(68) = 2.52$, $p < .01$] than low death threat females ($\overline{X} = 4.67$, SD = 2.23), but

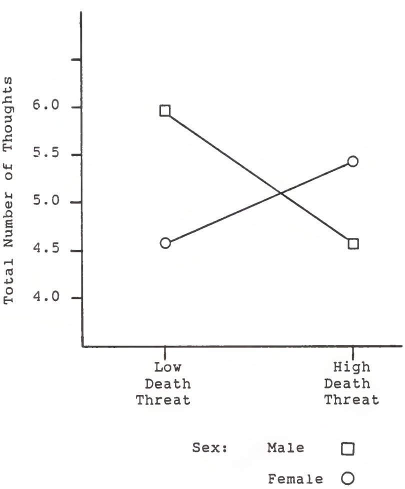

Figure 2. The Sex x Death Threat Interaction

no significant differences were found between the number of thoughts produced by high death threat males ($\bar{X} = 4.67$, SD = 2.20) and females ($\bar{X} = 5.49$, SD = 2.36; $\underline{t}(72) = -.53$, $\underline{p} < .13$, n.s.). Post-hoc *t*-tests also revealed that low death threat males produced a significantly greater number ($\bar{X} = 5.97$, SD = 2.05) of thoughts in response to the message than did high threat males ($\bar{X} = 4.68$, SD - 2.20), $t(68) = 2.54$, $\underline{p} < .01$). No significant differences were found between the number of thoughts produced by low death threat females and high death threat females, $\underline{t}(72) = -1.52$, $\underline{p} < .13$, n.s. The sex of the subject was also found to interact with the message quality condition in affecting the number of negative thoughts produced in response to the message (see Figure 3). While in the weak message condition there were no significant differences between males ($\bar{X} = .87$, SD = 1.31) and females ($\bar{X} = 1.41$, SD = 1.31) in the number of negative thoughts they produced [$t(70) = -1.7$, $\underline{p} < .09$, n.s.], a significant difference was found between the sexes in the strong message condition: males produced significantly more negative thoughts ($\bar{X} = 1.59$, SD = 2.02) than females ($\bar{X} = .46$, SD = .89). For male subjects, there were no significant differences in the number of thoughts produced in the strong or weak message conditions, $t(68) = -1.71$, $\underline{p} < .09$, n.s.). For female subjects, however, the weak message produced a significantly greater mean number of negative

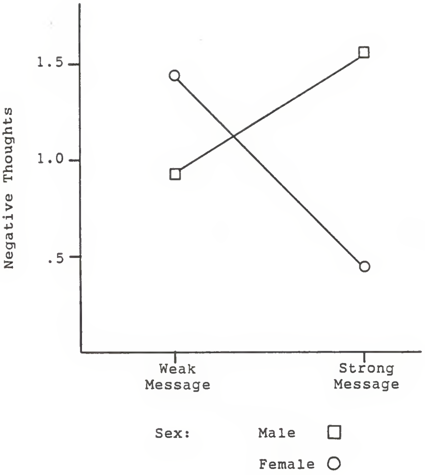

Figure 3. The Sex x Message Quality Interaction

($\overline{X}$ = 1.41) thoughts than the strong message ($\overline{X}$ = .46) condition, [$t(67) = 3.69$, $p < .0004$].

Age Effects

Death threat and distraction condition were also found to interact with age, $F(1,136) = 4.74$, $p < .03$. Post-hoc t-tests indicated that, in the no distraction condition, low death threat subjects were significantly older ($\overline{X}$ = 21.9, SD = 4.2) than high death subjects [$\overline{X}$ = 20.2, SD = .96, $t(69) = 2.3$, $p < .01$]. In the distraction condition, however, a significant age-death threat relationship was not found. A significant difference was found in the ages of high death threat subjects in the distraction ($\overline{X}$ = 21.1, SD = 2.6) and no distraction conditions [$\overline{X}$ = 20.2, SD = .85, $t(72) = -2.03$, $p < .05$], but this was not found to be true for the low death threat subjects, $t(68) = 1.37$, $p < .17$, n.s.

Tests of the Hypotheses

First Hypothesis

Because of the high intercorrelations between all eight attitude favorability measures, a MANOVA was performed to test the first hypothesis that high death threat subjects will exhibit significantly less favorability toward death education than will low death threat subjects across the screening attitudinal measures. No support for an overall death threat effect across these eight measures was found, Hotelling-Lawley's trace $\underline{F}(1,236) = .962$, $\underline{p} < .47$, n.s.

Second Hypothesis

As a test of the second hypothesis, the proportion of positive (i.e. favorable toward death education) and negative (unfavorable towards death education) thoughts in response to the message was examined for high and low death threat subjects. The number of either positive or negative thoughts divided by the total number of positive and negative thoughts was used to calculate the proportions. A three-way ANOVA (death threat x message quality x distraction) was performed.

Contrary to expectations, no significant main effects for death threat on either the proportion of positive or negative thoughts was found. Significant three-way interactions (death threat x message quality x distraction) were found for these two variables, $\underline{F}(1,130) = 7.05$, $p < .009$. One-tailed $\underline{t}$-tests, however, did not support the hypothesis that subjects high in death threat would have a greater proportion of negative thoughts [$\underline{t}(29) = -1.41$, $p < .169$] and a lesser proportion of positive thoughts, [$t(29) = -1.41$, $p < .169$] than subjects low in death threat in the strong message-no distraction condition.

In order to test the effects of the independent variables on positive and negative thoughts independent of each other, the total number (not proportion) of positive and negative thoughts elicited was analyzed. Again, no significant main effects for death threat on these variables was observed. A significant three-way interaction for negative thoughts [$\underline{F}(1,137) = 5.68$, $\underline{p} < .019$] but not for positive thoughts [$\underline{F}(1,137) = 1.52$, $\underline{p} < .22$, n.s.] was found. The significant interaction for negative thoughts is depicted in Figure 4.

Post-hoc $\underline{t}$-tests on the three-way interaction for negative thoughts revealed no support for the hypothesis; there was no significant difference between the mean number of negative thoughts from high death threat subjects ($\bar{X} = .47$) and the mean number of negative thoughts from low death threat subjects [$\bar{X} = 1.06$, $\underline{t}(30) = 1.34$, $\underline{p} < .19$, n.s.] in the strong message-distraction condition. Additional post-hoc $\underline{t}$-tests revealed no significant differences between the number of negative thoughts produced by high death subjects ($\bar{X} = 1.45$) and low death threat subjects ($\bar{X} = .78$) in the weak message-no distraction condition, $\underline{t}(37) = -1.74$, $\underline{p} < .09$, n.s. Thus, no significant differences were observed between high and low death threat subjects in how they processed messages in the no distraction condition.

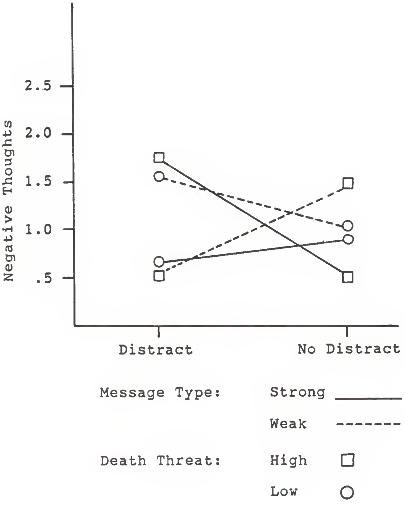

Figure 4. The Three-way Interaction for Negative Thoughts

In the weak message-distraction condition, however, a significant difference was found, such that low death threat subjects produced significantly more negative thoughts ($\bar{X}$ = 1.76) than high death threat subjects [$\bar{X}$ = .65; $\underline{t}(33) = 2.24$, $\underline{p} < .03$]. No significant difference on this measure was found between low ($\bar{X}$ = .72) and high death threat subjects ($\bar{X}$ = 1.76) in the strong message distract condition, however, $\underline{t}(37) = -1.73$, $\underline{p} < .09$, n.s.).

It should be noted that the relationships found between death threat and the number of negative thoughts found in the no distraction condition are reversed in the distraction condition of the study. This is reflected in post-hoc tests across the distraction conditions. High death threat subjects who received strong messages responded with significantly more negative thoughts in the distraction condition than in the no distraction condition, $\underline{t}(36) = -2.11$, $\underline{p} < .04$. High death threat subjects who received weak messages, on the other hand, produced significantly more negative thoughts in the no distraction condition ($\bar{X}$ = 1.45) than in the distraction condition [$\bar{X}$ = .65, $\underline{t}(33) = 2.26$, $\underline{p} < .03$].

For both high and low death threat subjects who received the strong message, no significant difference was found between the mean number of negative thoughts in the distraction ($\bar{X}$ = .72) or no distraction conditions [$\bar{X}$ = 1.06, $\underline{t}(31) = .77$, $\underline{p} < .45$, n.s.].

Third Hypothesis

The third hypothesis stated that high death threat subjects in the strong argument-no distraction condition would exhibit significantly less attitude favorability toward death and dying than low death threat subjects under the same conditions. A MANOVA for the influence of death threat across all eight attitudinal measures could not be performed because the cell sizes were too small to provide sufficient error degrees of freedom for the analysis.

In order to search for possible partial support of this hypothesis, a four-way ANOVA was then performed, to test for the effects and interactions of the variables death threat, message quality, distraction and sex for each of the eight attitudinal dependent measures. No significant main effects or interactions for death threat were found for any of these eight dependent measures.

Correlational Analyses

The fourth hypothesis, that a significant positive relationship would be found between death threat and a repression-sensitization (R-S) was not supported. A correlation of only $r = .09$, $p < .28$ was found between these two measures.

The fifth hypothesis, that a significant positive relationship would exist between R-S sensitization and the number of thoughts elicited, also was not supported. A correlation of only $r = .09$, p .26, n.s. between the number of thoughts and R-S score was found. Similarly no significant correlations were found between R-S score and number of positive thoughts ($r = .04$, p .66, n.s.) or R-S score and number of negative thoughts ($r = .11$, p .18, n.s.)

A test of the final hypothesis of the present study, that a significant positive relationship would be found between death threat and the number of thoughts produced, was also not supported, $r = .08$, p .33, n.s. The number of positive thoughts or negative thoughts was likewise not found to be significantly related to death threat ($r = .005$, and $r = .09$, respectively).

CHAPTER V

DISCUSSION

This chapter will discuss the results and outline the theoretical and practical implications of the findings. Limitations of the present study will also be discussed, as well as areas for continued research.

Implications

First Hypothesis

The hypothesis that high death threat subjects would exhibit less favorability towards death education than low death threat subjects was not supported. Considering the mean scores on the attitudinal items there appears to have been a generally positive view towards death education for all subjects. This suggests that, at least among the subject population, generally positive attitudes exist toward death education, independent of peoples' death threat. Women, incidently, were significantly more positive towards death education than males.

Related to the issue of death threat and attitudes toward death education in general is the willingness of persons to take a death education course. The present study found that signing one's name to receive more information about such a course was not related to one's level of death threat. This suggests that the positive attitudes extend to a willingness to learn more about death education; again, irrespective of one's level of death threat.

It should be noted that the average death threat score for subjects of the present study ($\overline{X} = 9.1$) is markedly lower than that found for undergraduate students in earlier studies ($\overline{X} = 18.2$, Neimeyer, Dingemans & Epting, 1977; $\overline{X} = 19.3$, Rigdon, Epting, Neimeyer & Krieger, 1979) This may be due to the fact that a majority of the present subjects were attending a class in personal growth, and students who would enroll in such a course may be lower in death threat than the "average undergraduate student."

Consistent with findings by Neimeyer, Dingemans and Epting (1979), Neimeyer and Dingemans (1980) and Neimeyer and Neimeyer (1984), no significant differences were found between the death threat scores of men and women. The finding, contrary to previous research, that death threat was unrelated to age probably stems from the fact that subjects' age range was limited (17-37 years). Consistent with research by Rigdon and Epting (1985), the present study found that persons reporting a stronger belief in an existence/life after death found death to be less threatening. Contrary to Rigdon and Epting's findings, however, higher reported religious devotion was associated with higher death threat. This finding should be regarded with caution, however, as Neimeyer (1987) warns that such unidimentional measures of religiosity are suspect.

Death threat was also found not to be associated with the frequency of thinking about and contemplating death. This finding should be interpreted with caution, however, for the overall frequency of thinking about death was low, the modal response being less than several times a year.

Effects of Distraction and Message Quality

Significant main effects on the appropriate questionnaire items supported the effectiveness of the distraction and message manipulations, and findings of their general effect are consistent with previous ELM research: For the message quality manipulation, the weaker message was seen as being a poorer argument than the strong message. The distraction condition was seen as interfering with concentrating on the message.

Additional findings, however, suggest that the effects of distraction and message quality interact with a person's death threat in affecting the way he or she perceives the argument quality of death education messages. While there are no significant differences in how high and low death threat subjects view argument quality in the strong and weak message-no distraction conditions, they do view the messages differently in the distraction condition: high death threat subjects in the strong message condition viewed the argument to be of a significantly higher quality than low death threat subjects did.

A possible explanation for this finding is suggested by the research of Petty and Cacioppo (1986). As noted in Chapter II, they found that the personal relevance of a message--when people expect a message to have significant consequences for their own lives--is a significant variable affecting the processing of messages. The more a message is personally relevant to a person, the more that person is likely to exert cognitive effort in order to process that message. It is possible that persons high in death threat desire to reduce their death anxiety and a message about reducing death anxiety through death education would be highly personally relevant to them. High death threat subjects, in theory, would have a high personal involvement for the topic of death education and would, according to Petty and Cacioppo, expend extra cognitive effort to process such a message. By this same reasoning, persons low in death threat, with little anxiety about death, would find a message about reducing death anxiety through death education comparatively less involving, and would therefore spend less energy in processing a message about it, when compared to high death threat persons. In the distraction condition high death threat subjects, by exerting more effort than the low death threat subjects, evaluate the strong message more positively than do low threat subjects. The "extra effort" that high death threat subjects may spend in evaluating the weak message may enable them to view the weak message more objectively, however, and thus view it more critically (i.e. negatively) than low death threat subjects do. In the no distraction condition high death threat subjects may not have used extra effort to process the message, and therefore their evaluation of the message's argument quality is similar to that of low death threat subjects (refer to Figure 1). Thus, evidence suggests that high death threat may bias the processing of death threat information, possibly because of high personal involvement in the topic.

Second Hypothesis

No evidence was found to support the second hypothesis, that high death threat subjects would exhibit a larger proportion of negative thoughts and a smaller proportion of positive thoughts than low death threat subjects in the strong argument condition-no distraction condition. Post-hoc analyses, however, revealed significant differences between subjects in the distraction condition in the total number of negative thoughts produced. When hearing a weak message, high death threat subjects produced significantly fewer negative thoughts than low death threat subjects. In the strong message condition, however, high death threat subjects produced more negative thoughts than low threat subjects. These relationships are in opposition to the earlier finding which showed that when hearing a weak message, high death threat subjects gave a greater negative evaluation (of message's argument quality) than low death threat subjects; while, for high death threat persons hearing strong messages the reverse was true.

An explanation to account for this reversal in evaluation of the messages in the no distraction condition by both high and low death threat subjects is not readily apparent. This finding does suggest, however, that death threat can be an influential factor under certain conditions in determining response to messages concerning death education.

The thoughts produced in response to the messages were also found to differ by sex, in interaction with death threat and message quality. High death threat males produced significantly more thoughts than low death threat males, yet this relationship did not hold true for females. Low death threat males had significantly more thoughts than low death threat females. Sex was also found to significantly interact with message quality for the number of negative thoughts produced. These findings are difficult to interpret in light of the lack of additional sex differences among the cognition measures of the present study.

Third Hypothesis

Cacioppo and Petty (1982) argued that for attitude change to occur in a positive direction, the thoughts generated in response to a message must be more favorable than thoughts regarding the topic prior to message exposure. As a result of the greater proportion of negative thoughts predicted in the second hypothesis, it was proposed in the third hypothesis that high death threat subjects would exhibit significantly less attitude favorability toward death education than low death threat subjects following exposure to a strong argument-no distraction condition. This hypothesis was not supported.

In light of the results of the test of the first hypothesis, this finding is not surprising. Evidence was cited that death threat was unrelated to attitudes toward death education, and that a tendency for a general positive bias toward death education appears to exist. Given these findings, a difference in attitude change between high and low death threat subjects should not be expected. The already positive bias toward death education may explain why no significant attitude change was observed following the persuasive message: attitudes were already in agreement with the message, thus no significant attitude change need take place.

Results indicate that positive bias toward death education is sex-related. Females expressed a significantly greater favorability toward death education than males as measured by five of the eight attitude measures. This finding may reflect an increased willingness on the part of female subjects to confront the emotional issues that would be inherent in taking a death education course, in comparison to males. This favorable attitude of females toward death education may account for the finding that they reported the taped message held their attention to a significantly greater degree than that reported by male subjects.

The observed significant increase in death threat scores from pre-experiment (i.e. screening) to post-experiment may be due to the effects of the experimental measurement tasks. Following the message and the coding of their thoughts, subjects were asked to complete a short death anxiety inventory and the Controlled Repression-Sensitization Inventory (CR-S), in addition to the Threat Index (TI). These measures, taken together, may have sensitized subjects to their own personal constructs concerning death, and their death threat scores may have increased as a result. It should be noted, however, that this finding contradicts research by Neimeyer, Dingemans and Epting (1977), who found that subjects' death threat scores did not change following exposure to a treatment designed to heighten anxiety about death (i.e. film).

Fourth Hypothesis

The fourth hypothesis predicted that a significant positive relationship would be found between death threat and repression-sensitization. No support for this was found. This is surprising in light of the fact that a study by Tobacyk and Ekstein (1981), using the same basic measures of the present study (the TI and an earlier version of the CR-S Scale), found a significant relationship between death threat and R-S, such that high death threat was associated with a "sensitizer" approach (as indicated by higher scores on the R-S Scale). A majority of the participants in the present study were volunteers enrolled in a personal growth (elective) psychology class. The Mean CR-S score for subjects was 12.41 (SD = 4.22) out of a possible 30. Handel, Peal, Napoli, and Austrin (1985) found a mean CR-S score for junior college students enrolled in social science classes of 14.35 (SD = 5.03). The lower CR-S score of the present sample group highlights the question of the group's representativeness of an "average college population." Conceivably, it may be that these students who enrolled in personal growth classes not only had lower R-S scores, but that, for this particular group, R-S scores may bear less of a relationship to death threat.

Fifth Hypothesis

The fifth hypothesis argued that subjects' R-S scores would be related to the number of thoughts they produced in the experimental tasks. Previous research has argued that R-S is related to approach-avoidance of threatening stimuli. But evidence suggests that thinking about taking a death and dying course is not threatening to either high or low death threat persons; death education is viewed favorably by both groups. The non-threatening nature of the messages may have contributed to the finding of no significant relationship between R-S score and thoughts produced.

Sixth Hypothesis

The possible contributions for lack of support of the sixth hypothesis, that there would be a relationship between death threat and the number of thoughts produced, have already been mentioned in the discussion of results of the first five hypotheses. As evidence was lacking in support of the last two hypotheses, it follows that little or no support would be found for this last hypothesis as well.

Limitations and Suggestions for Future Research

A number of limitations of the present study suggest possible directions for future research in the area. The subject group was limited to students enrolled in a personal growth course or a marriage and the family course. As noted in the discussion, this may have contributed to the results that subjects were favorable toward death education, limiting this finding's generalizability. Future research should investigate attitudes toward death education based on subjects sampled from more diverse populations.

The Non-representativeness of the sample group as a normal college population was also discussed as a possible factor contributing to the low mean death threat score and to the lack of support found for a relationship between repression-sensitization (R-S) and death threat. Future research may investigate the strength of this relationship between R-S and death threat for different population groups.

The present study found that a measure of behavioral intention (signing-up to receive more information about taking a death and dying course) was strongly related to positive attitudes toward death education, but not related to a person's death threat. While the interest in taking a death and dying course may not be related to death threat, evidence suggests that actual enrollment may be. Rainey and Epting (1977) and Rosenthal (1983) found that enrollees of a death education course had significantly lower measures of death anxiety than persons who did not enroll. Future studies should investigate this relationship between death threat, death education attitudes, and course enrollment and attendance.

Similarly, researchers may want to further investigate the present study's evidence that high death threat individuals have increased involvement in processing information concerning the benefits of death education. Questions addressing the extent of this increased involvement need to be addressed.

While the present findings are somewhat limited in their generalizability because of the use of the ELM experimental paradigm, the results do suggest that death threat is not related to attitudes toward death education for at least some population groups, and that a general positive attitude may exist. Use of the ELM paradigm led to the finding of evidence supporting the conclusion that high death threat subjects may be motivated to process information concerning death education. Such findings provide support to the argument that high death threat does not predispose a person to avoid processing death related-information as research on repression-sensitization and death threat would suggest. Future research will hopefully explore this line of questioning further.

APPENDIX A

THE THREE-ELEMENT TIp30

On this and the following two pages is a list of dimensions, each made up of a pair of opposites. For each dimension, please circle the number which best describes the event or object directly below. Use the zero rating if neither description seems to apply or if you are not sure which description applies.

On this first page, the element to rate is:

Myself(as I am now)

caring	6 5 4 3 2 1 0 1 2 3 4 5 6	not caring
purposeful	6 5 4 3 2 1 0 1 2 3 4 5 6	not purposeful
sick	6 5 4 3 2 1 0 1 2 3 4 5 6	healthy
static	6 5 4 3 2 1 0 1 2 3 4 5 6	changing
random	6 5 4 3 2 1 0 1 2 3 4 5 6	predictable
bad	6 5 4 3 2 1 0 1 2 3 4 5 6	good
feels good	6 5 4 3 2 1 0 1 2 3 4 5 6	feels bad
stagnation	6 5 4 3 2 1 0 1 2 3 4 5 6	growth
peaceful	6 5 4 3 2 1 0 1 2 3 4 5 6	violent
not understanding	6 5 4 3 2 1 0 1 2 3 4 5 6	understanding
calm	6 5 4 3 2 1 0 1 2 3 4 5 6	anxious
kind	6 5 4 3 2 1 0 1 2 3 4 5 6	cruel
meaningful	6 5 4 3 2 1 0 1 2 3 4 5 6	empty
open	6 5 4 3 2 1 0 1 2 3 4 5 6	closed
hope	6 5 4 3 2 1 0 1 2 3 4 5 6	no hope

restriction	6 5 4 3 2 1 0 1 2 3 4 5 6	freedom
useful	6 5 4 3 2 1 0 1 2 3 4 5 6	useless
unnatural	6 5 4 3 2 1 0 1 2 3 4 5 6	natural
hard	6 5 4 3 2 1 0 1 2 3 4 5 6	easy
secure	6 5 4 3 2 1 0 1 2 3 4 5 6	insecure
sad	6 5 4 3 2 1 0 1 2 3 4 5 6	happy
not responsible	6 5 4 3 2 1 0 1 2 3 4 5 6	responsible
weak	6 5 4 3 2 1 0 1 2 3 4 5 6	strong
not learning	6 5 4 3 2 1 0 1 2 3 4 5 6	learning
helping others	6 5 4 3 2 1 0 1 2 3 4 5 6	being selfish
existence	6 5 4 3 2 1 0 1 2 3 4 5 6	non-existence
animate	6 5 4 3 2 1 0 1 2 3 4 5 6	inanimate
satisfied	6 5 4 3 2 1 0 1 2 3 4 5 6	dissatisfied
pleasure	6 5 4 3 2 1 0 1 2 3 4 5 6	pain
lack of control	6 5 4 3 2 1 0 1 2 3 4 5 6	control

Note: In addition to Myself, the elements My ideal self and My own death are also rated using this scale.

APPENDIX B

ELEMENTS OF THE 10-ELEMENT TIp30

ELEMENTS OF THE 10-ELEMENT TIp30

The 10- element TIp30 utilizes the same 30 scalar constructs and the same three elements (self, ideal self and own death) as the three-element TIp30, with the addition of the following seven elements to be rated:

A divorced mother of two dies of a drug overdose.
Your closest friend dies in a plane crash.
Three children die when a tornado hits their elementary school.
Your father dies while trying to save another person from drowning.
Your grandmother dies in her sleep.
A terminal patient dies after months of unrelievable pain.
You run over and kill a young child.

APPENDIX C

BACKGROUND DATA SHEET

Age_____ Race___________ Sex: ___male ___female

What is your religious denominational preference?
__Catholic __Protestant __Atheist
__Jewish __Agnostic __Other (Which?______________)

I am a member of a church. __yes __no

I consider myself (please circle one):
1 2 3 4 5 6 7
extremely devout — moderately devout — inactive

There is a life/existence after death.
__strongly agree __strongly disagree
__moderately agree __moderately disagree
__slightly agree __slightly disagree
__no opinion

Have you ever had a "close brush" with death when you genuinely believed you were going to die? __yes __no

How often do you think about death, on the average? (ie.more than just a fleeting thought; rather, a certain period of time when you consider the implications of death, whether your own death or that of others.)
__several times a day __once a day __several times a week
__once a week __several times a month __less than once a month
__perhaps only several times a year

1. In general, how interested are you in learning more about death and dying through reading, attending a lecture, etc.?
Uninterested 1 2 3 4 5 6 7 Very interested

2. How much do you think a course on death and dying would help students to better understand and deal with death?
Not at all helpful 1 2 3 4 5 6 7 Very helpful

3. How much do you think such a course would help you to better understand and deal with death and dying?
Not at all helpful 1 2 3 4 5 6 7 Very helpful

4. What is you attitude about having a class session of the Introduction to Psychology course devoted to death and dying?
Strongly oppose 1 2 3 4 5 6 7 Strongly favor

5. How likely would you be to take a course in death and dying if it was offered as an elective?
Not at all likely 1 2 3 4 5 6 7 Very likely

6. What is your attitude about making a course in death and dying a required part of the curriculum for psychology majors?
Strongly oppose 1 2 3 4 5 6 7 Strongly favor

7. In general, how interested are you in signing up for a course to learn more about death and dying?
1 2 3 4 5 6 7
Uninterested Would not consider signing up — Extremely interested Would make effort to sign up

8. Please check the one statement below which best describes you.
__I am not really interested in learning more about death and dying
__I am interested in viewing a film on death and dying.
__I am interested in reading more about death and dying.
__I am interested in attending a lecture on death and dying
__I am interested in attending a 3-hour mini-seminar on death &dying
__I am interested in attending a 2-day conference on death & dying
__I am interested in attending a week-long mini-course on "d & d"
__I am interested in taking a 6-week course in death and dying
__I am interested in taking a semester course in death and dying

APPENDIX D

POST-TAPE QUESTIONNAIRE

Post-Tape Questionnaire

How clearly could you concentrate on the content of the taped message? Not at all 1 2 3 4 5 6 7 Very easily

To what extent did the taped message hold your attention?
Not at all 1 2 3 4 5 6 7 Very much

To what extent did the taped message have implications for you personally?
Not at all relevant to me 1 2 3 4 5 6 7 Extremely relevant

How would you rate the quality of the arguments used by the speaker in support of the advocated topic?
Very poor arguments 1 2 3 4 5 6 7 Very strong arguments

In general, how interested are you in learning more about death and dying through reading, attending a lecture, etc.?
Uninterested 1 2 3 4 5 6 7 Very interested

How much do you think a course on death and dying would help students to better understand and deal with death?
Not at all helpful 1 2 3 4 5 6 7 Very helpful

How much do you think such a course would help you to better understand and deal with death and dying?
Not at all helpful 1 2 3 4 5 6 7 Very helpful

What is you attitude about having a class session of the Introduction to Psychology course devoted to death and dying?
Strongly oppose 1 2 3 4 5 6 7 Strongly favor

How likely would you be to take a course in death and dying if it was offered as an elective?
Not at all likely 1 2 3 4 5 6 7 Very likely

What is your attitude about making a course in death and dying a required part of the curriculum for psychology majors?
Strongly oppose 1 2 3 4 5 6 7 Strongly favor

In general, how interested are you in signing up for a course to learn more about death and dying?
1 2 3 4 5 6 7
Uninterested — Would not consider signing up
Extremely interested — Would make effort to sign up

Please check the one statement below which best describes you.
- __I am not really interested in learning more about death and dying
- __I am interested in viewing a film on death and dying.
- __I am interested in reading more about death and dying.
- __I am interested in attending a lecture on death and dying
- __I am interested in attending a 3-hour mini-seminar on death &dying
- __I am interested in attending a 2-day conference on death & dying
- __I am interested in attending a week-long mini-course on "d & d"
- __I am interested in taking a 6-week course in death and dying
- __I am interested in taking a semester course in death and dying

If you are interested in taking a mini-course on death and dying, one will be offered this semester by Student Educational Services. If you are interested in finding out more about it, please write your name and phone number below and they will contact you within the next few weeks.

If you are not interested, simply turn the page for additional instructions.

Name:______________________________ Phone: _______________

APPENDIX E

THOUGHT-LISTING TECHNIQUE

Please list the thoughts you had concerning the message you heard on the tape, listing one thought per line.

1. ____|_____
2. ____|_____
3. ____|_____
4. ____|_____
5. ____|_____
6. ____|_____
7. ____|_____
8. ____|_____
9. ____|_____
10. ____|_____
11. ____|_____
12. ____|_____
13. ____|_____
14. ____|_____
15. ____|_____
16. ____|_____
17. ____|_____
18. ____|_____
19. ____|_____
20. ____|_____
21. ____|_____
22. ____|_____
23. ____|_____
24. ____|_____
25. ____|_____

DO NOT TURN THE PAGE UNTIL INSTRUCTED TO DO SO.

APPENDIX F

INTRODUCTION TO TAPE

In a moment, you will hear an audiotape that is one of fifteen tapes prepared by members of the senior staff of the UF Student Educational Services. These professionals are licensed psychologists in the State of Florida. All are highly experienced counselors, with doctorate (Ph.D) degrees in Counseling Psychology. These tapes have been prepared as part of their work as members of the senior staff of the UF Student Educational Services.

You will be listening to a tape prepared by Dr. Richard Danielson who has a Ph.D. degree in Counseling Psychology. The audiotape will discuss a course in death and dying.

Please listen carefully to the tape, for you will later be asked to give your thoughts and opinions in response to it. Your feedback will be used in determining the interest in and need for courses in death and dying at the University of Florida for students like yourself. Through your feedback, you will be helping your university serve your fellow students, by clarifying what is needed and desired in this area. Your opinions are important, so please listen carefully to the tape.

Please put on your headphones at this time to indicate that you are ready to begin.

PLEASE DO NOT TURN THE PAGE UNTIL INSTRUCTED TO DO SO.

APPENDIX G

STRONG MESSAGE

Taking a course in death and dying has been shown to have several positive effects for the people who take one. First, the loss of a loved one can be a painful and tragic event. A class in death and dying can prepare us to handle this pain we all will face at sometime in our lives, and research supports this. People who have taken a death and dying course have been found to experience significantly less disabling grief than people who have not taken such a course.

Second, taking a death and dying course can also help us to deal with other types of losses. Research conducted by Richards and Nesbitt in 1985 found that students who completed a death and dying course were better able to adjust to losses such as divorce, job layoffs, and retirement.

Third, research has also shown that as a consequence of taking a death and dying course, students have become significantly more relaxed, open, and comfortable when interacting with people who are dying (such as cancer patients) as shown by attitudinal and physiological measures. These positive changes remained long after the students completed the course.

Finally, studies have found that up to 86% of students completing a death and dying course became more comfortable in facing their own death and were able to discuss their preference for funeral arrangements with their families. Taking a course in death and dying helps people to face their own mortality in a less threatening, more comfortable, and mature way.

In summary, taking a death and dying course provides the student with many positive benefits, and research supports this. Benefits include a lessening of grief in response to the loss of loved ones, better adjustment to other losses, increased ease when interacting with the terminally ill, and greater openness and maturity when facing one's own death.

APPENDIX H

WEAK MESSAGE

Many people I know have taken death and dying courses for various reasons. For example, many people take it because they just find it a fascinating topic; others take it because they have a friend who is taking the class, or because they know and like the instructor. Another reason people enroll is because taking the course can be a great way to meet other people. Death and dying courses are often organized around interactions so you can get a chance to meet lots of other people. And all kinds of people take the course. Students of all majors have taken the course, and many take it because they are going to be health-care professionals and may end up working with terminally ill patients. In any event, a death and dying course attracts many kinds of people, and taking this course is a good way to meet people who are different.

Secondly, I have taken a course in death and dying and although I didn't get much out of it, that doesn't mean it can't be a rewarding experience for some people. Different classes are useful for different people, and it is possible that you may be the one that finds this class useful.

Thirdly, most people waste a lot of their free time--time often spent watching television, partying, sleeping, etc. Taking a course in death and dying is at least as constructive as watching television. And it makes good sense to use your time constructively, wisely, and efficiently in this day and age.

My last point is a simple one, and it was told to me by a student: She said, "We all have to die one day, so we might as well take a class about it!" The wisdom of this statement is obvious, and it really makes you stop and think about what's important. And that is something we should all do from time to time.

In summary, people have taken a death and dying course for various reasons. Taking such a course can be a good way to meet different people and it is one of the many ways of using your free time for something constructive. You also may find this course useful, and since we all are going to die someday, we might as well consider taking a course in it.

APPENDIX I

THOUGHTS REGARDING A STATEMENT

THOUGHTS REGARDING A STATEMENT

We would now like to get an idea of the thoughts that crossed your mind while listening to the tape about a death and dying course. The next page contains the form we have prepared for you to use to record your thoughts and ideas. Please simply write down the first idea that comes to mind on the first line, the second idea on the second line, etc. Please put only one idea or thought on a line. You should try to record your thoughts and ideas about courses in death and dying as concisely as possible--a phrase is sufficient.
IGNORE SPELLING, GRAMMAR, AND PUNCTUATION.

You will have three minutes to write down your thoughts about the message on the tape. We have provided more space than most people will need, so don't worry if you don't fill every space. Just write down whatever your thoughts were about death and dying courses after listening to the tape. Please be completely honest and list all of the thoughts that you had--putting only one thought per space.

DO NOT TURN THE PAGE UNTIL INSTRUCTED TO DO SO.

APPENDIX J

THOUGHT-CODING INSTRUCTIONS

THOUGHT-CODING

Now, please go back to page where you listed your thoughts after the tape. In the space at the end of each line, rate each thought as follows:

If the thought was in favor of the idea of taking a death and dying course, mark the thought with a plus (+).

If the thought was opposed to the idea of taking a death and dying course, mark the thought with a minus (-).

If the thought was neither in favor of taking the death and dying course nor opposed to it, mark the thought with a zero (0).

APPENDIX K

DEBRIEFING

Debriefing

One purpose of the present study is to investigate the relationship between attitudes toward death and attitudes toward death education. More specifically, it is hypothesized that a person's attitudes toward death will be related to how he or she processes information about a death and dying course. You were asked to list your thoughts following a taped message so we could get an idea about how you processed such information, and how it relates to your views about death. Death is usually regarded as threatening and you filled out several questionnaires which measured the degree to which you viewed death as threatening, as well as measured your tendency to be aware of threatening information in general.

During the investigation you were informed that the tape was made by a Dr. Richard Danielson of Student Educational Services. This is a fictitious person and no organization named Student Educational Services exists at the University of Florida. Thus if you wrote your name and number down as being interested in taking a course in death and dying from this organization, you will not be called. Courses on this topic, however, are taught through the Education-Foundations program at the University of Florida (such as EDF 3935, Psychological and Social Aspects of Death and Dying). You may also wish to discuss this topic with the principle investigator of this study (David Giancoli, 392 - 0600), your Introduction to Psychology instructor, or with a counselor at the University Counseling Center (392 - 1575).

Again, thank you for your participation in this study. I ask that you respect the confidentiality of this project by not talking about it with your friends who may also participate in it at a later date. Because prior information regarding the study could influence its findings, we appreciate your confidence.

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BIOGRAPHICAL SKETCH

David Leonard Giancoli was born July 14, 1959, the third of three sons to Rino and Elaine Giancoli of Orlando, Florida. He graduated from Maynard Evans High School as an honor student in June, 1977, and through early admissions, graduated from Valencia Community College with an Associate of Arts degree in August of the same year. In January 1978 he was admitted to New College of the University of South Florida in Sarasota, and was awarded the degree of Bachelor of Arts in psychology in 1980.

In September, 1980, David was admitted as a full-time student in counseling psychology at the University of Florida. He was awarded a Rotary International Foundation scholarship to study abroad, and spent the 1983/84 academic year at the University of Utrecht in the Netherlands. He completed an internship at the Veteran's Administration Medical Center in Bay Pines, Florida in 1986. In 1987, he will receive the degree of Doctor of Philosopy in counseling psychology.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a disssertation for the degree of Doctor of Philosophy.

Greg J. Neimeyer, Chairperson
Associate Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a disssertation for the degree of Doctor of Philosophy.

Franz R. Epting, Co-chairperson
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a disssertation for the degree of Doctor of Philosophy.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a disssertation for the degree of Doctor of Philosophy.

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Associate Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a disssertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Graduate Faculty of the Department of Psychology in the College of Liberal Arts and Sciences and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree Doctor of Philosophy.

August 1987

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